

# Bibliography

## 61-1 Chemical Identity

MRID	Citation Reference
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40369201	Frank, R. (1987) Confidential Statements of Formula and Formulation Procedures for Faster and Basalex Herbicides: Doc. No. 87/5055. Unpublished study prepared by BASF Corp. Chemicals Div. 10 p.
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MRID	Citation Reference
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62-2 Certification of limits

MRID	Citation Reference
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63-0      Reports of Multiple phys/chem Characteristics

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**63-17 Storage stability**

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**63-20 Corrosion characteristics**

MRID	Citation Reference
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MRID	Citation Reference
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72-3 Acute Toxicity to Estuarine/Marine Organisms

MRID	Citation Reference
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MRID	Citation Reference
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MRID	Citation Reference
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81-2 Acute dermal toxicity in rabbits or rats

MRID	Citation Reference
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164901	Henderson, C. (1980) PP021: Acute Toxicity and Local Irritation: CTL Report No. CTL/P/506. Unpublished study prepared by Imperial Chemical Industries Ltd., Central Toxicology Laboratory. 43 p.
40340803	Kieczka, H. (1986) Report on the Study of Acute Dermal Toxicity on the Rat Based on OECD of BAS 530 03 H: Reg. Doc. #BASF 85/0259. Unpublished study prepared by BASF Aktiengesellschaft. 14 p.
40439202	Barber, J. (1987) Fluazifop-P-Butyl/Fomesafen: Acute Dermal Toxicity to the Rat of a 0.75/1.0 lb/US gal Formulation: Rept. No. CTL/P/1972. Unpublished study prepared by Imperial Chemical Industries, Ltd. 30 p.
43236203	Duerden, L. (1994) Fomesafen: Acute Dermal Toxicity to the Rat of a 120g/l ME Formulation: Lab Project Number: CTL/P/4348: CR3122. Unpublished study prepared by Zeneca Central Toxicology Lab. 36 p.
43949802	Lees, D.; Connolly, H. (1996) Fomesafen: Acute Dermal Toxicity to the Rat of a 240 g/l FL Formulation: Lab Project Number: CR3292: CTL/P/4913. Unpublished study prepared by Zeneca Central Toxicology Lab. 37 p.

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44032402 Robinson, P. (1996) Fomesafen Sodium Salt Aqueous Concentrate: Acute Dermal Toxicity Study in Rats of a 316.1 g/L MUP Formulation: Lab Project Number: CR3294: CTL/P/4980. Unpublished study prepared by Zeneca Central Toxicology Lab. 39 p.

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81-3 Acute inhalation toxicity in rats

MRID	Citation Reference
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40439203	Hext, P. (1987) Fluazifop-P-Butyl/Fomesafen: 4-hour Acute Inhalation Toxicity Study in the Rat of a 0.75/1.0 lb/US gal Formulation: Rept. No. CTL/P/1941. Unpublished study prepared by Imperial Chemical Industries, Ltd. 75 p.
43236204	Parr-Dobrzanski, R.; Rogers, K. (1994) Fomesafen: 4-hour Acute Inhalation Toxicity Study in the Rat of a 120g/l ME Formulation: Lab Project Number: CTL/P/4358: HR2235. Unpublished study prepared by Zeneca Central Toxicology Lab. 73 p.
43949803	Pinto, P. (1996) Fomesafen 240g/l SL Formulation: 4-Hour Acute Inhalation Toxicity Study in Rats: Lab Project Number: HR2286: CTL/P/4906. Unpublished study prepared by Zeneca Central Toxicology Lab. 116 p.
44030103	Pinto, P. (1996) Flexstar HL (Fomesafen 225.57 G/L ME Formulation): 4-Hour Acute Inhalation Toxicity Study in Rats: Lab Project Number: HR2288: CTL/P/4937. Unpublished study prepared by Zeneca Central Toxicology Laboratory. 58 p.
44032403	Pinto, P. (1996) Fomesafen Sodium Salt Aqueous Concentrate: 4-Hour Acute Inhalation Toxicity Study in Rats of a 316.1 g/L MUP Formulation: Lab Project Number: HR2280: CTL/P/4939. Unpublished study prepared by Zeneca Central Toxicology Lab. 114 p.
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81-4 Primary eye irritation in rabbits

MRID	Citation Reference
158245	Kieczka, H. (1985) Report on the Acute Irritation to the Eye of the White Rabbit...: [BAS 530 04 H]: Report No. 85/166; Project No. 13H123/85. Unpublished study prepared by BASF Aktiengesell- schaft. 6 p.
164900	Henderson, C. (1981) PP021: Acute Oral Toxicity, Skin Irritation and Eye Irritation: CTL Report No. CTL/P/562. Unpublished study prepared by Imperial Chemical Industries Ltd., Central Toxicolo- gy Laboratory. 25 p.

164901 Henderson, C. (1980) PP021: Acute Toxicity and Local Irritation: CTL Report No. CTL/P/506. Unpublished study prepared by Imperial Chemical Industries Ltd., Central Toxicology Laboratory. 43 p.

40340804 Kieczka, H. (1985) Report on the Acute Irritation to the Eye of the White Rabbit Based on OECD and EPA (...) of BAS 530 03 H: Reg. Doc. #BASF 85/0164. Unpublished study prepared by BASF Aktiengesellschaft. 11 p.

40439204 Southwood, J. (1987) Fluazifop-P-Butyl/Fomesafen: Eye Irritation to the Rabbit of a 0.75/1.0 lb/US Gal Formulation: Rept. No. CTL/P/ 1987. Unpublished study prepared by Imperial Chemical Industries, Ltd. 34 p.

43236205 Duerden, L. (1994) Fomesafen: Eye Irritation to the Rabbit of a 120g/l ME Formulation: Lab Project Number: CTL/P/4355: FB4862. Unpublished study prepared by Zeneca Central Toxicology Lab. 33 p.

43876901 Lees, D.; Leah, A. (1995) Fomesafen: Eye Irritation to the Rabbit of a 240 g/l (sic) SL Formulation: (Final Report): Lab Project Number: CTL/P/4859. Unpublished study prepared by Zeneca Central Toxicology Lab. 38 p.

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44032404 Robinson, P. (1996) Fomesafen Sodium Salt Aqueous Concentrate: Eye Irritation to the Rabbit of a 316.1 g/L MUP Formulation: Lab Project Number: FB5278: CTL/P/4982. Unpublished study prepared by Zeneca Central Toxicology Lab. 25 p.

44036705 Doyle, C. (1996) Twister (Fomesafen/Fenoxaprop/Fluazifop-p-Butyl): Eye Irritation to the Rabbit of a 130.78/19.22/68.42 g/L ME Formulation: Lab Project Number: FB5260: CTL/P/4968. Unpublished study prepared by Zeneca Central Toxicology Lab. 38 p.

81-5 Primary dermal irritation

MRID	Citation Reference
158244	Kieczka, H. (1985) Report on the Acute Dermal Irritation/Corrosivity to the Intact Dorsal Skin of the White Rabbit...: [BAS 530 04 H]: Report No. 85/165; Project No. 14H123/85. Unpublished study prepared by BASF Aktiengesellschaft. 7 p.
164900	Henderson, C. (1981) PP021: Acute Oral Toxicity, Skin Irritation and Eye Irritation: CTL Report No. CTL/P/562. Unpublished study prepared by Imperial Chemical Industries Ltd., Central Toxicology Laboratory. 25 p.
164901	Henderson, C. (1980) PP021: Acute Toxicity and Local Irritation: CTL Report No. CTL/P/506. Unpublished study prepared by Imperial Chemical Industries Ltd., Central Toxicology Laboratory. 43 p.
40340805	Kieczka, H. (1985) Report on the Acute Dermal Irritation/Corrosivity to the Intact Dorsal Skin of the White Rabbit Based on OECD and EPA (...) of BAS 530 03 H: Reg. Doc. #BASF 85/0163. Unpublished study prepared by BASF Aktiengesellschaft. 12 p.
40439205	Barber, J. (1987) Fluazifop-P-Butyl/Fomesafen: Skin Irritation to the Rabbit of a 0.75/1.0 lb/US gal Formulation: Rept. No. CTL/P/ 1960. Unpublished study prepared by Imperial Chemical Industries, Ltd. 22 p.
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43949804	Lees, D.; Connolly, H. (1996) Fomesafen: Skin Irritation to the Rabbit of a 240 g/l SL Formulation: Lab Project Number: EB4438: CTL/P/4907. Unpublished study prepared by Zeneca Central Toxicology Lab. 21 p.

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44036706 Robinson, P. (1996) Twister: Fomesafen/Fenoxaprop/Fluazifop-p-Butyl: Skin Irritation to the Rabbit of a 130.78/19.22/68.42 g/L ME Formulation: Lab Project Number: EB4462: CTL/P/4933. Unpublished study prepared by Zeneca Central Toxicology Lab. 25 p.

81-6     **Dermal sensitization**

MRID	Citation Reference
164902	Henderson, C. (1982) Fomesafen (Acid Form and Sodium Salt): Skin Sensitisation Studies: CTL Report No. CTL/P/601. Unpublished study prepared by Imperial Chemical Industries, Central Toxicology Laboratory. 30 p.
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43236207	Duerden, L. (1994) Fomesafen: Skin Sensitisation to the Guinea Pig of a 120g/l ME Formulation: Lab Project Number: CTL/P/4367: GG6114. Unpublished study prepared by Zeneca Central Toxicology Lab. 49 p.
43949805	Lees, D.; Connolly, H. (1996) Fomesafen: Skin Sensitization to the Guinea Pig of a 240 g/l SL Formulation: Lab Project Number: GG6618: CTL/P/4915. Unpublished study prepared by Zeneca Central Toxicology Lab. 36 p.
44030106	Robinson, P. (1996) Flexstar HL (Fomesafen): Skin Sensitisation to the Guinea Pig of a 225.57 g/l ME Formulation: Lab Project Number: GG6661: CTL/P/4953. Unpublished study prepared by Zeneca Central Toxicology Laboratory. 38 p.
44032406	Robinson, P. (1996) Fomesafen Sodium Salt Aqueous Concentrate: Skin Sensitisation to the Guinea Pig of a 316.1 g/L MUP Formulation: Lab Project Number: GG6632: CTL/P/4983. Unpublished study prepared by Zeneca Central Toxicology Lab. 38 p.
44036707	Robinson, P. (1996) Twister (Fomesafen/Fenoxaprop/Fluazifop-p-Butyl): Skin Sensitisation to the Guinea Pig of a 130.78/19.22/68.42 g/L ME Formulation: Lab Project Number: GG6663: CTL/P/4935. Unpublished study prepared by Zeneca Central Toxicology Lab. 38 p.

82-1     **Subchronic Oral Toxicity: 90-Day Study**

MRID	Citation Reference
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103014	Kalinowski, A.; Chalmers, D.; Chart, I.; et al. (1981) PP021: 26 Week Oral Dosing Study in Dogs: Report No. CTL/P/591. (Unpublished study received May 28, 1982 under 10182-EX-30; prepared by Imperial

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103015 Sotheran, M.; Banham, P.; Gore, C.; et al. (1980) PP021: 4-Week Feeding Study in Male Rats with a 6-week Recovery Period: Report No. CTL/P/541. (Unpublished study received May 28, 1982 under 10182-EX-30; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL: 247590-A)

141524 Henderson, C.; Jackson, S. (1982) The Effects of Fomesafen on Marmoset Liver: Report No. CTL/P/740. Unpublished study prepared by Imperial Chemical Industries PLC. 42 p.

40786709 Colley, J.; Cladee, S.; Street, A.; et al. (1980) Preliminary Assessment of PP 021 Toxicity to Mice by Dietary Administration for 4 Weeks: Project ID: ICI/317/80148. Unpublished study prepared by Huntingdon Research Centre. 236 p.

40910801 Hart, D.; Banham, P.; Bishop, L.; et al (1988) Fomasafen: 28-day Feeding Study in Hamsters: Lab. Proj. ID CTL/P/880. Unpublished study prepared by ICI Central Toxicology Laboratory. 80 p.

82-2 21-day dermal-rabbit/rat

MRID	Citation Reference
135632	Henderson, C.; Parkinson, G.; Oliver, G.; et al. (1983) Fomesafen: Subacute Dermal Toxicity Study in Rabbits: Report No. CTL/P/555. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072152-B)
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83-1 Chronic Toxicity

MRID	Citation Reference
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131491	Colley, J.; Slater, N.; Heywood, R.; et al. (1983) Fomesafen: 2- Year Feeding Study in Mice: HRC Report No. ICI 318/82754; Sponsor's Study No. PM 0386; CTL/C/1207A through E. Final rept. (Unpublished study received Oct 13, 1983 under 10182-EX-33; prepared by Huntingdon Research Centre, Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:071999-A; 072000; 072001)
135629	Milburn, G.; Steel, G.; Banham, P.; et al. (1983) Fomesafen: 2 Year Feeding Study in Rats: Report No. CTL/P/752. Prelim. rept. (Unpublished study received Oct 13, 1983 under 10182-EX-33; prepared by ICI Chemical Industries, Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:071998-B)
142125	Milburn, G. ; Steele, G. ; Banham, P. (1984) Fomesafen: 2 Year Feeding Study in Rats: Report No. CTL/P/863. Unpublished study prepared by ICI Americas, Inc. 550 p.
145961	Milburn, G.; Steel, G.; Banham, P.; et al. (1984) Fomesafen: 2 Year Feeding Study in Rats: Individual Animal Data Supplement: Report No. CTL/P/863S. Unpublished study prepared by Imperial Chemical Industries PLC. 1016 p.
148051	Colley, J.; Gopinath, C.; Chanter, D. (1985) 2-Year Feeding Study in Mice: Fomesafen: Final Report No: ICI



318/82754: Addendum. Unpublished study prepared by Huntington Research Centre plc. 11 p.

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83-2      **Oncogenicity**

MRID	Citation Reference
131491	Colley, J.; Slater, N.; Heywood, R.; et al. (1983) Fomesafen: 2- Year Feeding Study in Mice: HRC Report No. ICI 318/82754; Sponsor's Study No. PM 0386; CTL/C/1207A through E. Final rept. (Unpublished study received Oct 13, 1983 under 10182-EX-33; prepared by Huntingdon Research Centre, Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:071999-A; 072000; 072001)
155454	Colley, J.; Gopinath, C. (1985) Fomesafen: 2-Year Feeding Study in Mice: Final Report: HRC Report No. ICI 318/82754--Addendum 2. Unpublished study prepared by Huntingdon Research Centre Ltd. 16 p.
40786706	Rao, M.; Reddy, J. (1987) Peroxisome proliferation and hepatocarci- nogenesis. 8(5): 631-636.
40786707	Lazarow, P. (1977) Three hypolipidemic drugs increase hepatic pal- mitoyl-coenzyme a oxidation in the rat. Science 14(197): 580- 581.
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44569803	Moffat, G. (1998) Fomesafen: The Proposed Mechanism of Liver Carcinogenesis in Mice: Lab Project Number: CTL/R/1369. Unpublished study prepared by Zeneca Central Toxicology Laboratory. 72 p.
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83-3      **Teratogenicity -- 2 Species**

MRID	Citation Reference
103016	Richards, D.; Banham, P.; Cook, S.; et al. (1982) PP021: Terato- genicity Study in the Rat: Report No. CTL/P/576. (Unpublished study received May 28, 1982 under 10182-EX-30; prepared by Imperial Chemical Industries PLC, Eng., submitted by ICI Amer- icas, Inc., Wilmington, DE; CDL:247590-C)
109214	Richards, D.; Doss, A.; Kilmartin, M.; et al. (1981) PP021: Teratogenicity Study in the Rabbit: Report No. CTL/P/578. (Unpublished study received May 28, 1982 under 10182-EX-30; prepared by Imperial Chemical Industries PLC, Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:247590-B)
164903	De S Wickramaratne, G. (1981) Fomesafen: Teratogenicity Study in the Rat: CTL Report No. CTL/P/656. Unpublished study prepared by Imperial Chemical Industries, Central Toxicology Laboratory. 40 p.

83-4      **2-generation repro.-rat**

MRID	Citation Reference
144862	Tinston, D.; Bishop, L.; Hollis, K.; et al. (1984) Fomesafen: Two Generation Reproduction Study in the Rat: Report Nos. CTL/P/869 and CTL/P/869S. Unpublished study prepared by Imperial Chemical Industries PLC. 1052 p.

84-2 Interaction with Gonadal DNA

MRID	Citation Reference
103018	Trueman, R.; Longstaff, E. (1981) An Examination of PP021 for Potential Carcinogenicity Using Two in vitro assays: Report No. CTL/P/596. (Unpublished study received May 28, 1982 under 10182-EX-30; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL: 247590-J)
103019	Kilmartin, M.; Anderson, D.; Banham, P.; et al. (1981) PP021: Dominant Lethal Study in the Mouse: Report No. CTL/P/609. (Un- published study received May 28, 1982 under 10182-EX-30; pre- pared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:247590-K)
135628	Richardson, C.; Howard, C.; Styles, J.; et al. (1983) Fomesafen: A Repeat Cytogenetic Study in the Rat: Report No. CTL/P/826. (Un- published study received Oct 13, 1983 under 10182-EX-33; pre- pared by Imperial Chemical Industries, Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:071998-A)
141526	Green, T.; Tay, S. (1984) Fomesafen: Covalent Interaction with Rat Liver Macromolecules in vivo: Report No. CTL/R/745. Unpublished study prepared by Imperial Chemical Industries PLC. 15 p.
164907	Anderson, D. (1981) PP021: A Cytogenetic Study in the Rat: CTL Report No. CTL/P/623. Unpublished study prepared by Imperial Chemical Industries Ltd., Central Toxicology Laboratory. 47 p.
40786703	Mellano, D.; Milone, M. (1984) Study of the Capacity of the Test Article Fomesafen to Induce Unscheduled DNA Synthesis in Cultured HELA Cells ( Autoradiographic Method): Project ID: CTC/C/1266. Unpublished study prepared by Istituto Di Recerche Biomediche. 18 p.
40786705	Ashby, J.; Tennant, R. (1988) Chemical structure, salmonella mutagenicity and extent of carcinogenicity as indicators of genetic carcinogenicty among 222 chemicals tested in rodents by the US NCI/NTP. Mutation Research 11(204): 17-115.
40910804	Cross, M. (1987) Fomesafen: Assessment of Mutagenic Potential Using L51784 Mouse Lymphoma Cells: Lab. Proj. ID CTL/P/2058. Unpub- lished study prepared by ICI Central Toxicology Laboratory. 30 p.
40910805	Sheldon, T.; Richardson, C.; Beck, S. (1988) Fomesafen: An Evalua- tion in the Mouse Micronucleus Test: Lab. Proj. ID CTL/P/2156. Unpublished study prepared by ICI Central Toxicology Laboratory. 34 p.
40910806	Jones, B.; Ladd, R. (1985) Fomesafen: Covalent Interaction with Mouse Liver Macromolecules in vivo: Lab. Proj. ID CTL/P/1230. Unpublished study prepared by ICI Central Toxicology Laboratory. 26 p.
44569802	Elliott, B. (1998) Fomesafen: Genotoxicity Overview: Lab Project Number: CTL/P/5567. Unpublished study prepared by Zeneca Central Toxicology Laboratory. 19 p.
44569805	Howard, C.; Richardson, C. (1998) Fomesafen: An Evaluation in the in vitro Cytogenic Assay in Human Lymphocytes: Lab Project Number: CTL/P/2378. Unpublished study prepared by Zeneca Central Toxicology Laboratory. 30 p.
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85-1

General metabolism

MRID	Citation Reference
103012	ICI Americas, Inc. (1982) Mammalian Toxicology. Summary of studies 247589-B through 247589-F and 247590-A through 247590-M. (Un- published study received May 28, 1982 under 10182-EX-30; CDL: 247589-A)
103017	Hall, B.; Vickers, J.; Hopkins, R.; et al. (1982) Fomesafen: Absorption, Excretion and Tissue Retention of a Single Oral Dose (5mg/kg) in the Rat: Volume 1: HLE Report No. 2536-72/266/ 2; ICI Report No. CTL/C/1101. (Unpublished study received May 28, 1982 under 10182-EX-30; prepared by Hazleton Laboratories Europe, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:247590-E)
135633	Jones, B.; Ladd, R.; Prout, M.; et al. (1983) Fomesafen: Biotrans- formation in the Rat: Report No. CTL/P/797. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chem- ical Industries, Plc., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072152-C)
135634	Jones, B.; Tivey, D.; Kalinowski, A.; et al. (1983) Fomesafen: Adsorption, Excretion and Tissue Retention of a Single Oral Dose (5Mg/Kg) in the Dog: Report No. CTL/P/637. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chemical Industries Plc., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072152-D)
141525	Jones, B.; Ladd, R.; Shimwell, M. (1984) Fomesafen: Pharmacokinetic Study in the Marmoset: Report No. CTL/P/712. Unpublished study prepared by Imperial Chemical Industries PLC. 37 p.
144861	Jones, B.; Choo, C.; Williams, D. (1983) Fomesafen: Excretion and Tissue Retention of a Single Oral Dose (5 Mg/Kg) in the Mouse: Report No. CTL/P/883. Unpublished study prepared by Imperial Chemical Industries PLC. 44 p.
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164906	Rhodes, C. (1982) Fomesafen: Disposition and Excretion in the Normal and Bile Duct Cannulated Rat: CTL Report No. CTL/P/636. Unpublished study prepared by Imperial Chemical Industries, Central Toxicology Laboratory. 49 p.
164939	Hall, J.; Vickers, J.; Hopkins, R. (1982) Fomesafen: Excretion and Tissue Retention of a Single Intravenous Dose (5Mg/Kg) in the Rat: Volume 1: HLE Report No. 2536-72/266/1: CTL Report No. CTL/P/1100. Unpublished study prepared by Hazleton Laboratories Europe, Ltd. 82 p.
40910803	Jones, B.; Williams, D.; Gavin, J. (1984) Fomesafen: Excretion and Tissue Retention of a Single Oral Dose (5 mg/kg) in the Hamster: Lab. Proj. ID CTL/P/937. Unpublished study prepared by ICI Central Toxicology Laboratory. 33 p.

85-3

Dermal Penetration/Absorption

MRID	Citation Reference
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148052 Scott, R.; Walker, M. (1985) In vitro Percutaneous Absorption of Fomesafen through Human Epidermal Membranes: Report No. CTL/P/ 1112. Unpublished study prepared by Imperial Chemical Industries Plc. 24 p.

121-1      **Phytotoxicity**

MRID	Citation Reference
103020	ICI Americas, Inc. (1981) Flex Fomesafen Herbicide. (Unpublished study received May 28, 1982 under 10182-EX-30; CDL:247591-A)
110509	ICI Americas, Inc. (1982) Flex 2LC Herbicide--Contaming Fomesafen: ?Evaluation of Use for Control of Broadleaf Weeds in Soybeans . (Compilation; unpublished study received Aug 19, 1982 under 10182-EX-33; CDL:071059-A)
135655	Weissler, M.; Gough, H.; Poole, N.; et al. (1982) Fomesafen: Ef- fect of Post-emergence Application on Soybean Growth and Nitro- gen Fixation: Report No. RJ0279B. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by ICI Plant Protection Ltd., submitted by ICI Americas, Inc., Wilmington; DE; CDL: 072157-G)
141743	ICI Americas, Inc. (1984) Flex 2LC Herbicide: [Efficacy and Phyto- toxicity]: Final Report. Unpublished compilation. 412 p.
162133	ICI Americas, Inc. (1986?) Reflex 2LC Herbicide (Containing Fomesafen) for Postemergence Broadleaf Weed Control in Soybeans: Reflex Effectiveness and Economic Benefits. Unpublished compilation. 68 p.

161-1      **Hydrolysis**

MRID	Citation Reference
150555	ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.

161-2      **Photodegradation-water**

MRID	Citation Reference
150555	ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.
40451101	Joseph, R.; Hand, L.; Skidmore, M. (1987) Fomesafen: An Aqueous Photolysis Study: Rept. No. RJ0618B. Unpublished study prepared by ICI Agricultural Experiment Station. 61 p.

161-3      **Photodegradation-soil**

MRID	Citation Reference
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150555 ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.

40451102 Joseph, R.; Hand, L.; Skidmore, M. (1987) Fomesafen: Photolytic Stability on a Soil Surface: Rept. No. RJ0624B. Unpublished study prepared by ICI Plant Protection Div., Jealott's Hill Research Station. 66 p.

162-1     **Aerobic soil metabolism**

MRID	Citation Reference
135659	Bewick, D.; Zinner, C.; White, R. (1983) Fomesafen: Degradation in Soil under Flooded Conditions in the Laboratory: Report Series RJ 0269B. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL: 072158-C)
135660	Bewick, D.; Zinner, C.; White, R. (1982) Fomesafen: Degradation in Soil under Aerobic Conditions in the Laboratory: Report Series RJ 0235B. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072158-D)
150555	ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.

162-2     **Anaerobic soil metabolism**

MRID	Citation Reference
150555	ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.
40327301	Bharti, H.; Simmons, N.; Vickers, J.; et al. (1986) Fomesafen/ PP748: Quantification of Amine and Schiff's Base Degradates in Flooded Soil: Laboratory Project ID RJ0493B. Unpublished study prepared by ICI Plant Protection Div. 75 p.
41181001	Hawkins, D.; Elsom, L.; Kane, T. (1989) The Metabolism of <sup>14</sup> C-Fomesafen in Sandy Loam Soil Under Anaerobic Conditions: Laboratory Project ID: HRC/ISN/200/89966. Unpublished study prepared by Huntingdon Research Centre Ltd. 45 p.

162-3     **Anaerobic aquatic metab.**

MRID	Citation Reference
135658	Leahey, J.; Curl, E. (1983) Fomesafen: Fate in River Water and Sediment Exposed to Sunlight for Up to 30 Days: Report Series RJ 0275B. (Unpublished study received Nov 22, 1983 under 10182- 83; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072158-B)
47865308	Peters, J. (2002) Fomesafen: Anaerobic Aquatic Metabolism of [Carbon 14-Nitrophenyl]-Fomesafen: Final Report. Project Number: 1318/01. Unpublished study prepared by Syngenta Crop Protection. 490 p.



163-1 Leach/adsorp/desorption

MRID	Citation Reference
150555	ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.
40361703	Bharti, H.; Jones, S.; Hill, I. (1987) Fomesafen: Leaching of Fomesan Degradation Products in Soil Columns: Laboratory Project ID RJ0610B. Unpublished study prepared by ICI Plant Protection Div. 54 p.
41251401	Garrison, L.; Rose, R.; Rigsby, D.; et al. (1989) Fomesafen: USA Groundwater Study: Final Report September 1989: Proj. ID PP021/ BD/13. Unpublished study prepared by ICI Agrochemicals. 162 p.
45048207	Kuet, S. (1999) Fomesafen: Aged Desorption Properties in Soil: Lab Project Number: 98JH179: RJ2774B. Unpublished study prepared by Zeneca Ag Products. 38 p.

163-2 Volatility - lab

MRID	Citation Reference
150555	ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.

164-1 Terrestrial field dissipation

MRID	Citation Reference
135661	Ussary, J.; Koubek, K.; Theodorakis, S.; et al. (1983) Fomesafen Residues in Soil--Study GFS-8102: Report Series TMU1089/B. (Un- published study received Nov 22, 1983 under 10182-83; submitted by ICI Americas, Inc., Wilmington, DE; CDL:072158-E)
135662	Leahey, J.; Sanderson, D.; Collis, W. (1981) ?Residue: Fomesafen in Soil : Residue Data Report No. PP021/B021. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072158-F)
40327305	Harradine, K. (1985) Fomesafen: Dissipation in USA Soil from In-use Soybean Trials during 1984-85: Laboratory Project ID M4083B. Unpublished study prepared by ICI Plant Protection Div., Jealott's Hill. 37 p.
40327306	Freedlander, R. (1987) Fomesafen and PP748: Dissipation in USA Soil from In-use Soubean Trials during 1984-1985: (Trial Site Daitails for All 22 Site): Laboratory Project ID TMU3321/B. Unpublished study prepared by ICI Americas, Inc., Biological Research Center. 91 p.
40327307	Hendley, P. (1987) Fomesafen and PP748: Dissipation in USA Soil from In-use Soybean Trials during 1984-1985--Weather, Soils and Timing Datafor All 22 Sites: Laboratory Project ID TMU3137/B. Unpublished study prepared by ICI Americas, Inc., Biological Research Center. 138 p.
40327308	Taylor, B.; Cottom, J.; White, B.; et al. (1987) Fomesafen: Fate of Radiolabelled Material in Soil under Field Conditions at Vicks- burg, Mississippi, USA: Laboratory Project ID RJ0602B. Unpub- lished study prepared by ICI Plant Protection Div., Jealott's Hill. 72 p.

40346602 Atreya, N. (1987) Fomesafen: Dissipation of Residues from Soils in USA during 1986: Technical Letter PP021BD14. Unpublished study prepared by ICI Plant Protection Division. 12 p.

40644401 Pay, J.; Sanders, G.; Simmons, N.; et al. (1988) Fomesafen: Dissipation of Residues from Soil in the USA During 1986--Analytical Report and Field Details: Project ID: RJ0647B. Unpublished study prepared by ICI Americas Inc. 229 p.

164-2 Aquatic field dissipation

MRID	Citation Reference
45048202	Leung, S.; Schmidt, S. (1999) Fomesafen: Determination of Fomesafen in Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection: Lab Project Number: TMR0883B. Unpublished study prepared by Zeneca Ag Products. 19 p.
45048203	Wood, B. (1999) Independent Laboratory Validation of Zeneca Ag Products Analytical Method: Fomesafen: Determination of Fomesafen in Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection: Lab Project Number: RR 99-035B: 110.007. Unpublished study prepared by North Coast Labs., Ltd. 53 p. {OPPTS 850.7100}

164-5 Long term soil dissipation

MRID	Citation Reference
40327302	Francis, F.; Trumbo, K. (1987) Fomesafen: Dissipation in USA Soils from In-use Soybean Trials Conducted during 1983-1986: Laboratory Project ID TMU3319/B. Unpublished study prepared by ICI Americas, Inc. Biological Research Center. 111 p.
40327303	Freeland, R.; Trumbo, K. (1987) Fomesafen: Dissipation in USA Soil during 1983-1985: Addendum--Trial Site Details for 26 Sites: Laboratory Project ID TMU3320/B. Unpublished study prepared by ICI Americas, Inc., Biological Research Center. 84 p.
40327304	Davis, L.; Hendley, P. (1987) Fomesafen: Dissipation in USA Soils from In-use Soybean Trials Conducted during 1983-1986--Weather, Data for 26 Sites: Laboratory Project ID TMU333/B. Unpublished study prepared by ICI Americas, Inc., Biological Research Center. 263 p.

165-1 Confined rotational crop

MRID	Citation Reference
40346603	Leahey, J.; Parker, S. (1987) Characterization of Fomesafen as the Major Compound Found in Rotational Crops: Technical Letter PP021B061: Supplements RJ0247B. Unpublished study prepared by ICI Plant Protection Division. 21 p.

165-2 Field rotational crop

MRID	Citation Reference
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45268501 Iwata, Y. (2000) Fomesafen: Residue Levels in the Rotational Crops, Field Corn and Safened Sorghum, from Trials Conducted in the United States: Lab Project Number: RR00-087B: 110.015: FOME-98-CR-01. Unpublished study prepared by Zeneca Ag Products, Inc. 171 p. {OPPTS 860.1900}

165-4      **Bioaccumulation in fish**

MRID	Citation Reference
150555	ICI Americas Inc. (1985) Response to EPA's Review of the Environmental Fate Data on Fomesafen: [Attached: Studies on Leaching, Hydrolysis, Photodegradation, Soil Degradation, Mobility, Dissipation, and Accumulation on Fish]. Unpublished compilation. 704 p.

166-1      **Ground water-small prospective**

MRID	Citation Reference
44354201	Wadley, A. (1997) Fomesafen: Zeneca Response to EPA's DER for MRID #422470-01 (May 5, 1997)-- Modeling Data, as Requested by EPA,...: (Small-Scale Prospective Groundwater Monitoring Study): Lab Project Number: 1997-021/4: TMJ3884. Unpublished study prepared by Zeneca Agrochemicals (Zeneca Ltd.). 21 p.

171-4B      **Residue Analytical Methods**

MRID	Citation Reference
135665	Leahey, J.; Collis, W. (1983) Storage Stability Interim Report: ?Fomesafen : Residue Data Report No. PP021B026. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chemical Industries, Ltd. Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072158-I)
135666	Leahey, J.; Collis, W. (1983) Storage Stability Interim Report: ?Fomesafen : Residue Data Report No. PP021B027. (Unpublished study received Nov 22, 1983 under 10182-83; prepared by Imperial Chemical Industries, Ltd., Eng., submitted by ICI Americas, Inc., Wilmington, DE; CDL:072158-J)
40007101	Francis, P.; Watford, S. (1986) The Determination of PP021 in Soybeans - A High Performance Liquid Chromatographic Method: Analytical Method No. GAM-RAM-001/86. Unpublished study prepared by ICI Americas Inc. 23 p.
44754703	Meyers, T.; Robbins, J. (1998) Fomesafen: Determination of Fomesafen in Cottonseed and Gin Trash by Gas Chromatography: Lab Project Number: TMR0800B. Unpublished study prepared by Zeneca Ag Products and Texas A&M University. 30 p. {OPPTS 860.1340}
44754704	Miller, C.; James, J. (1998) Independent Laboratory Validation of TMR0800B--Fomesafen: Determination of Fomesafen in Cottonseed and Gin Trash by Gas Chromatography: Lab Project Number: 98-0042. Unpublished study prepared by EN-CAS Analytical Laboratories. 76 p. {OPPTS 860.1340}
45268502	Meyers, T. (1999) Fomesafen: Determination of Fomesafen in Corn by Gas Chromatography with Nitrogen/Phosphorus Detection: Lab Project Number: TMR0855B. Unpublished study prepared by Zeneca Ag Products, Inc. 35 p. {OPPTS 860.1340}
45268503	Meyers, T. (1999) Fomesafen: Determination of Fomesafen in Sorghum by Gas Chromatography with Nitrogen/Phosphorus Detection: Lab Project Number: TMR0879B. Unpublished study prepared by Zeneca

Ag Products, Inc. 35 p. {OPPTS 860.1340}

171-4C      **Magnitude of the Residue [by commodity]**

MRID	Citation Reference
135635	ICI Americas, Inc. (1983) Flex 2LC Herbicide (Containing Fomesa- fen). (Compilation; unpublished study received Nov 22, 1983 under 10182-83; CDL:072153-A)
41085101	Francis, P. (1989) Reflex (Fomesafen): Magnitude of the Residue Study on Soybeans after Aerial Application: Project ID 021-MR88- 01. Unpublished study prepared by ICI Americas Inc. 85 p.
41350001	Francis, P. (1989) Reflex (Fomesafen:) Magnitude-of-the-Residue Study on Soybeans: Protocol Nos. 021-MR88-01; 021-MR88-02; Report No. RR 89-039B. Unpublished study prepared by ICI Americas, Inc., Western Research Center in cooperation with BioAnalytika Laboratories, Inc. 238 p.
43893401	Lurvey, E. (1995) Fomesafen: Magnitude of Residue on Bean (Snap): Lab Project Number: 03472: 90:ARFOM1: 90:AR:006. Unpublished study prepared by Interregional Research Project No. 4. 397 p.
43893402	Lurvey, E. (1993) Potential Residues of Fomesafen in Snapbeans: Lab Project Number: 03472. Unpublished study prepared by University of Arkansas. 36 p.
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44754701	Iwata, Y. (1998) Fomesafen: Residue Levels in Cotton From Trials Conducted in the USA: Lab Project Number: FOME-97-MR-01: RR98-050B: 88-GA-97-825. Unpublished study prepared by Zeneca Ag Products. 85 p. {OPPTS 860.1500}
44754702	Iwata, Y. (1998) Fomesafen: Residue Levels in Cotton From a Trial Conducted in the Texas: Lab Project Number: FOME-97-PR-01: RR 98-051B: 23-TX-97-833. Unpublished study prepared by Zeneca Ag Products and Texas A&M University. 37 p. {OPPTS 860.1520}
45093601	McDonnell, R. (2000) Fomesafen: Processing Study on Soybeans from a Trial Conducted in the United States During 1998: Lab Project Number: RR 99-101B: NCL 110.009: FOME-98-PR-01. Unpublished study prepared by Zeneca Ag Products Inc., Texas A&M University and North Coast Labs. 75 p. {OPPTS 860.1520}
45093602	Meyers, T. (1998) Fomesafen: Determination of Fomesafen in Soybeans by Gas Chromatography with Nitrogen/Phosphorus Detection: Lab Project Number: TMR0836B. Unpublished study prepared by Zeneca Ag Products. 35 p.
45093603	Meyers, T. (1999) Fomesafen: Determination of Fomesafen in Soybean Oil by Gas Chromatography with Nitrogen/Phosphorus Detection: Lab Project Number: TMR0881B. Unpublished study prepared by Zeneca Ag Products. 29 p.
45093604	McDonnell, R. (2000) Fomesafen: Residue Levels on Soybeans from Trials Conducted in the United States During 1998: Lab Project Number: RR 99-076B: FOME-98-MR-01: 05-MS-97-705. Unpublished study prepared by Zeneca Ag Products., Texas A&M University and North Coast Labs. 134 p. {OPPTS 860.1500}
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45259801	Iwata, Y. (2000) Fomesafen: Residue Levels in Snap Beans from Trials Conducted in the United States During 1999: Lab Project Number: FOME-99-MR-02: WINO 32570: RR 00-040B. Unpublished study prepared by Zeneca Ag Products, Inc. and North Coast Laboratories. 94 p. {OPPTS 860.1500}

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171-4A2 Nature of the Residue in Plants

MRID	Citation Reference
110508	ICI Americas, Inc. (1982) Flex 2LC Herbicide (Containing Fome- safen): Petition for Temporary Tolerance of Fomesafen on Soy- beans: Section D: Residue Chemistry. (Compilation; unpublished study received Aug 19, 1982 under 10182-EX-33; CDL:071058-A)
135637	ICI Americas, Inc. (1983) Degradation in Soybean Plants: ?Fomesa- fen . (Compilation; unpublished study received Nov 22, 1983 under 10182-83; CDL:072155-B)
44754706	Eya, B.; Kaya, K.; Bowler, D. (1998) Fomesafen--Fate in Cotton (Gossypium hirsutum): Lab Project Number: PMS429: WINO 13708: RR 97-056B. Unpublished study prepared by Zeneca Ag Products. 95 p. {OPPTS 860.1300}
45313001	Silcock, R. (2000) Fomesafen: Metabolism in Soybeans: Lab Project Number: PMS 470: RJ2926B. Unpublished study prepared by ZENECA Agrochemicals. 104 p. {OPPTS 860.1300}

171-4A3 Nature of the Residue in Livestock

MRID	Citation Reference
110508	ICI Americas, Inc. (1982) Flex 2LC Herbicide (Containing Fome- safen): Petition for Temporary Tolerance of Fomesafen on Soy- beans: Section D: Residue Chemistry. (Compilation; unpublished study received Aug 19, 1982 under 10182-EX-33; CDL:071058-A)
135635	ICI Americas, Inc. (1983) Flex 2LC Herbicide (Containing Fomesa- fen). (Compilation; unpublished study received Nov 22, 1983 under 10182-83; CDL:072153-A)
135637	ICI Americas, Inc. (1983) Degradation in Soybean Plants: ?Fomesa- fen . (Compilation; unpublished study received Nov 22, 1983 under 10182-83; CDL:072155-B)

830.1550 Product Identity and composition

MRID	Citation Reference
46061001	Hipps, A. (2003) Manufacturing Process Description and Supporting Data for Fomesafen Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/079, AF/1520/1. Unpublished study prepared by Syngenta Crop Protection, Inc. 61 p.
46303601	Hipps, A. (2004) Manufacturing Process Description and Supporting Data for Fomesafen Technical (PP21). Project Number: PC/04/070, SA/7/1, T003299/03. Unpublished study prepared by Syngenta Crop Protection, Inc. 267 p.
46952101	Hipps, A. (2006) Manufacturing Process Description and Supporting Data for Prefix Herbicide (A14972F). Project Number: PC/06/122, SYN531762, CGA77102. Unpublished study prepared by Syngenta Crop



Protection, Inc. 111 p.

- 47178301 Hipps, A. (2007) Flexstar (A12967D): Manufacturing Process Description and Supporting Data for Flexstar (A12967D). Project Number: PC/07/042, REPORT/PC/07/042, SF/233/1. Unpublished study prepared by Syngenta Crop Protection, Inc. 129 p.
- 47409103 Sharda Worldwide Exports Pvt. Ltd. (2008) Fomesafen Technical Insecticide - Product Identity and Composition, Description of Beginning Materials, Manufacturing Process, and Discussion of Formation of Impurities. Unpublished study prepared by Sharda Worldwide Exports Pvt. Ltd. 76 p.
- 47477601 DeCarlo, J. (2008) Product Chemistry - Cheminova Fomesafen 2.0 Herbicide: Group A - Product Identity, Composition, and Analysis. Project Number: 80107, 21300, 90969. Unpublished study prepared by Cheminova, Inc. 45 p.
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- 47482501 Cheminova, Inc. (2008) Product Chemistry-Cheminova Foresafen 1.88 Herbicide Group A-Product Identity, Composition, and Analysis. Unpublished study prepared by Cheminova, Inc. 59 p.
- 47538601 Hipps, A. (2008) Manufacturing Process Description and Supporting Data for Flexstar GT (A16918A). Project Number: PC/08/056, SF/305/1, TOO1679/08. Unpublished study prepared by Syngenta Crop Protection, Inc. 116 p.
- 47549302 Miller, R. (2008) Product Chemistry Volume II-Product Identity and Composition, Description of Materials Used to Produce the Product, Description of the Formulation Process, and Discussion of Formation of Impurities: Fomesafen 2 SL. Project Number CHB/RP/PCV/315/T/1. Unpublished study prepared by PhibroWood, LLC. 45 p.
- 48090901 Hipps, A. (2010) Fomesafen, Glyphosate: Flexstar GT3.5 (A17898A): Manufacturing Process Description and Supporting Data. Project Number: PC/10/021/OCR, TK0025141, 10417303. Unpublished study prepared by Syngenta Crop Protection, Inc. 132 p.
- 48109401 Doyle, T. (2010) Fomesafen Technical: Product Identification and Preliminary Analysis. Project Number: QIN/001. Unpublished study prepared by Life Scientific, Ltd. 122 p.
- 48109402 Hawk, R. (2010) Fomesafen Technical: Product Identity, Description of Materials, Manufacturing Process, Discussion of Impurities and Certification of Limits. Project Number: SD1004C. Unpublished study prepared by Orion Fomes, LLC. 124 p.
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- 48320801 Willowood, LLC (2010) Willowood Fomesafen 2.0 EC - Product Chemistry - Product Identity and Composition, Description of Materials Used to Produce the Product, Description of the Production Process, Description of the Formulation Process, and Discussion of Formation of Impurities. Unpublished study Prepared by Willowood LLC. 37 p.
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- 48460001 Hawk, R. (2011) Fomesafen 1.88 Herbicide: Product Identity, Description of Materials, Manufacturing Process, Discussion of Impurities and Certified Limits. Project Number: OF1104C. Unpublished study prepared by Orion Fomes, LLC. 62 p.
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- 48642901 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Summary of Product Properties Test Guidelines. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 7p.
- 48642902 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Product Identity and Composition. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 79p.
- 48854802 Fickle, J. (2012) MANA 14204 Product Chemistry, Part A. Project Number: MANA/14204/PC/PART/A/REG, ARC/OP/MTH/204/P/2. Unpublished study prepared by Makhteshim Agan of North America, Inc. 67p.
- 48890301 Fickle, J. (2012) MANA 14201 Product Chemistry, Part A. Project Number: MANA/14201/PC/PART/A/REG. Unpublished study prepared by Makhteshim-Agan of North America, Inc. 49p.
- 48925901 Fickle, J. (2012) MANA 25350 Product Chemistry, Part A. Project Number: MANA/25350/PC/PART/A/REG. Unpublished study prepared by MANA. 70p.
- 49171701 Hitchcock, C. (2013) NUP-12090: Product Chemistry: (Group A). Project Number: RTP/13/029/REG/OCR. Unpublished study prepared by Nufarm Americas, Inc. 126p.
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830.1600      **Description of materials used to produce the product**

MRID	Citation Reference
46061001	Hipps, A. (2003) Manufacturing Process Description and Supporting Data for Fomesafen Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/079, AF/1520/1. Unpublished study prepared by Syngenta Crop Protection, Inc. 61 p.
46303601	Hipps, A. (2004) Manufacturing Process Description and Supporting Data for Fomesafen Technical (PP21). Project Number: PC/04/070, SA/7/1, T003299/03. Unpublished study prepared by Syngenta Crop Protection, Inc. 267 p.
46896901	Hipps, A. (2006) Manufacturing Process Description and Supporting Data for Fomesafen Technical. Project Number: PC/06/062, T004444/05, 10068438. Unpublished study prepared by Syngenta Crop Protection, Inc. 60 p.
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- 47409103 Sharda Worldwide Exports Pvt. Ltd. (2008) Fomesafen Technical Insecticide - Product Identity and Composition, Description of Beginning Materials, Manufacturing Process, and Discussion of Formation of Impurities. Unpublished study prepared by Sharda Worldwide Exports Pvt. Ltd. 76 p.
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830.1620      **Description of production process**

MRID	Citation Reference
46303601	Hipps, A. (2004) Manufacturing Process Description and Supporting Data for Fomesafen Technical (PP21). Project Number: PC/04/070, SA/7/1, T003299/03. Unpublished study prepared by Syngenta Crop Protection, Inc. 267 p.
46896901	Hipps, A. (2006) Manufacturing Process Description and Supporting Data for Fomesafen Technical. Project Number: PC/06/062, T004444/05, 10068438. Unpublished study prepared by Syngenta Crop Protection, Inc. 60 p.
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47478102	Collier, R. (2008) Fomesafen Technical: Product Identity and Disclosure of Ingredients, Description of Materials Used to Produce the Product, Manufacturing Process, Discussion of Formation of Impurities, Analysis and Certified Limits. Project Number: 1743WIQ/M, 1743W, CS290557. Unpublished study prepared by Landis International, Inc. and PTRL West, Inc. 201 p.
48109402	Hawk, R. (2010) Fomesafen Technical: Product Identity, Description of Materials, Manufacturing Process, Discussion of Impurities and Certification of Limits. Project Number: SD1004C. Unpublished study prepared by Orion Fomes, LLC. 124 p.
48136102	Wagner Regulatory Associates, Inc. (2010) Shafen Star: Product Identity and Composition, Description of Materials Used to Produce the Product, Description of Production Process, Description of Formulation

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48460001 Hawk, R. (2011) Fomesafen 1.88 Herbicide: Product Identity, Description of Materials, Manufacturing Process, Discussion of Impurities and Certified Limits. Project Number: OF1104C. Unpublished study prepared by Orion Fomes, LLC. 62 p.

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50313301 Endres, M. (2017) Product Chemistry Data for Liberty Gly Fome. Project Number: 17/89168/GLYF/FOME/A. Unpublished study prepared by Liberty Crop Protection, LLC. 67p.

**830.1650      Description of formulation process**

MRID	Citation Reference
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46061001 Hipps, A. (2003) Manufacturing Process Description and Supporting Data for Fomesafen Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/079, AF/1520/1. Unpublished study prepared by Syngenta Crop Protection, Inc. 61 p.

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47549302 Miller, R. (2008) Product Chemistry Volume II-Product Identity and Composition, Description of Materials Used to Produce the Product, Description of the Formulation Process, and Discussion of Formation of Impurities: Fomesafen 2 SL. Project Number CHB/RP/PCV/315/T/1. Unpublished study prepared by PhibroWood, LLC. 45 p.

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830.1670      Discussion of formation of impurities

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830.1700 Preliminary analysis

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830.1750      Certified limits

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830.1800      **Enforcement analytical method**

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830.6302      **Color**

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49834701 Gregory, A. (2016) Glyphosate Am + Fomesafen Na: Summary of OPPTS 830.1000 Series Product Properties Test Guidelines. Project Number: ALB16/04S, ALB16/04, 41896/EAM. Unpublished study prepared by Albaugh, LLC. 7p.

49834703 Wo, C. (2015) Glyphosate Am + Fomesafen Na: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, pH, Viscosity, and Density/Relative Density. Project Number: 41897,



P801, 41896. Unpublished study prepared by Product Safety Laboratories. 17p.

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50313302 Aders, M. (2017) Physical and Chemical Characteristics of Liberty Gly Fome: Final Report. Project Number: ARC/EX/2047/004/P/1, arc/ex/2047/001/p, arc/op/dcs/009/p. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 20p.

50524602 Moreno, D. (2018) Glyphosate IPA 31.75% + Fomesafen (Na Salt) 5.88 % SL. Physical-Chemical Properties and Accelerated Storage Study: Final Report. Project Number: E16171. Unpublished study prepared by Cambium, S.L. 64p.

**830.6313      Stability to normal and elevated temperatures, metals, and metal ions**

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
47409106	Wagner, J. (2008) Fomesafen Technical Herbicide: Stability to Normal and Elevated Temperatures, Metals, and Metal Ions: Storage Stability: Miscibility: Corrosion Characteristics: Dielectric Breakdown Voltage: Viscosity: Boiling Point: Particle Size, Fiber Length, and Diameter Distribution. Unpublished study prepared by Sharda Worldwide Exports Pvt. Ltd. 5 p.
47482502	Cheminova, Inc. (2008) Product Chemistry-Cheminova Fomesafen 1.88 Herbicide Group B-Physical and Chemical Properties. Project Number: 24112. Unpublished study prepared by Cheminova, Inc. 59 p.
48300505	Weller, P. (2010) Group B-Product Chemistry Analysis of Fomesafen Technical: Final Report. Project Number: 311081/1/001. Unpublished study prepared by Midwest Research Institute. 36 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.
48308201	Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
48308204	Wen, H. (2009) Chemical and Physical Characterization of Fomesafen TGAI: Color, Physical State, Odor, Stability, Oxidation/Reduction, pH, UV-Vis, Melting Point, Density, Dissociation Constant, Partition Coefficient and Water Solubility: Final Report. Project Number: NC/2009/009. Unpublished study prepared by Nutrichem Laboratory Co., Ltd. 72 p.
49213603	Foldi, Z. (2013) Physical and Chemical Characteristics of Drexel Foma-Soy 1.88 Herbicide: Stability to Normal and Elevated Temperature, Metals and Metal Ions, and Accelerated Storage Stability and Corrosion Characteristics. Project Number: DCC/0913/B. Unpublished study prepared by Drexel Chemical Company. 19p.
49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.
50524602	Moreno, D. (2018) Glyphosate IPA 31.75% + Fomesafen (Na Salt) 5.88 % SL. Physical-Chemical Properties

and Accelerated Storage Study: Final Report. Project Number: E16171. Unpublished study prepared by Cambium, S.L. 64p.

**830.6314      Oxidizing or reducing action**

MRID	Citation Reference
46061002	Hipps, A. (2003) Physical and Chemical Properties of Fomesafen Sodium Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/082, T001130/03, HT03/105. Unpublished study prepared by Syngenta Crop Protection, Inc. 44 p.
46952102	Hipps, A. (2006) Physical and Chemical Properties of Prefix Herbicide (A14972F): (Final Report). Project Number: PC/06/123. Unpublished study prepared by Syngenta Crop Protection, Inc. 69 p.
47178302	Hipps, A. (2007) Flexstar (A12967D): Physical and Chemical Properties of Flexstar (A12967D). Project Number: PC/07/043, REPORT/PC/07/043, T000827/07. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
47549301	Miller, R. (2008) Product Chemistry Volume IV-Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatibility, pH, Viscosity, and Density: Fomesafen 2 SL. Project Number: CHB/EX/534/004/P/1, CHB/EX/534. Unpublished study prepared by PhibroWood, LLC. 21 p.
48090902	Hipps, A. (2010) Fomesafen, Glyphosate: Flexstar GT3.5 (A17898A): Physical and Chemical Properties . Project Number: PC/10/022/OCR, TK0025118, 10417156. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
48136101	Johnson, L. (2010) Fomesafen 2 SL: Product Chemistry Series B: Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatibility, pH, Viscosity, and Density. Project Number: ARC/EX/762/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 13 p.
48300505	Weller, P. (2010) Group B-Product Chemistry Analysis of Fomesafen Technical: Final Report. Project Number: 311081/1/001. Unpublished study prepared by Midwest Research Institute. 36 p.
48308201	Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
48308204	Wen, H. (2009) Chemical and Physical Characterization of Fomesafen TGAI: Color, Physical State, Odor, Stability, Oxidation/Reduction, pH, UV-Vis, Melting Point, Density, Dissociation Constant, Partition Coefficient and Water Solubility: Final Report. Project Number: NC/2009/009. Unpublished study prepared by Nutrichem Laboratory Co., Ltd. 72 p.
48320803	Johnson, L. (2010) Fomesafen 2 SL Product Chemistry Series B Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatability, pH, Viscosity, and Density. Project Number: ARC/EX/852/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 13 p.
48336503	Johnson, L. (2010) Fomesafen 21SL: Product Chemistry Series B: Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatibility, pH, Viscosity, and Density. Project Number: ARC/EX/870/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 13 p.
48464301	Moyer, J. (2011) FNF-015 End-Use Product Summary of OPPTS 830.1000 Series Product Properties Guidelines. Project Number: ALB11/05. Unpublished study prepared by Albaugh, Inc. 7 p.
48464303	Wo, C. (2011) Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction,

Flammability, pH, Viscosity, and Density/Relative Density: FNF-015. Project Number: 31532, P801. Unpublished study prepared by Eurofins/Product Safety Laboratories. 17 p.

48642901 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Summary of Product Properties Test Guidelines. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 7p.

48642903 Wo, C. (2011) Fomesafen + Imazethapyr SC: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, pH, Viscosity, and Density/Relative Density. Project Number: 32620 P801. Unpublished study prepared by Eurofins/Product Safety Laboratories. 16p.

48854801 Miller, R. (2012) Physical and Chemical Characteristics of MANA 14204: Final Report. Project Number: MTO/60. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.

48890302 Miller, R. (2012) Physical and Chemical Characteristics of MANA 14201: Final Report. Project Number: ARC/EX/1155, ARC/EX/1155/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.

48925902 8/21/12 (2012) Physical and Chemical Characteristics of MANA 25350: Final Report. Project Number: ARC/EX/1182 ARC/EX/1182/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.

49171702 Wo, C. (2013) NUP-12090: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, Flammability, pH, Viscosity, and Density/Relative Density. Project Number: 36199, P801/OCR. Unpublished study prepared by Product Safety Laboratories. 18p.

49834701 Gregory, A. (2016) Glyphosate Am + Fomesafen Na: Summary of OPPTS 830.1000 Series Product Properties Test Guidelines. Project Number: ALB16/04S, ALB16/04, 41896/EAM. Unpublished study prepared by Albaugh, LLC. 7p.

49834703 Wo, C. (2015) Glyphosate Am + Fomesafen Na: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, pH, Viscosity, and Density/Relative Density. Project Number: 41897, P801, 41896. Unpublished study prepared by Product Safety Laboratories. 17p.

49992702 Theus, S. (2016) Physical and Chemical Characteristics of Fomesafen 1.88 SL: Final Report. Project Number: ARC/EX/1857, ARC/EX/1857/004/P/1, ARC/EX/1857/001/P. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 20p.

50313302 Aders, M. (2017) Physical and Chemical Characteristics of Liberty Gly Fome: Final Report. Project Number: ARC/EX/2047/004/P/1, arc/ex/2047/001/p, arc/op/dcs/009/p. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 20p.

50524603 Moreno, D. (2017) Glyphosate IPA 31.75% + Fomesafen (Na Salt) 5.88% SL. Flash Point and Oxidizing Properties: Final Report. Project Number: E17172. Unpublished study prepared by Sharda Cropchem Limited. 15p.

830.6315      **Flammability**

MRID	Citation Reference
46061002	Hipps, A. (2003) Physical and Chemical Properties of Fomesafen Sodium Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/082, T001130/03, HT03/105. Unpublished study prepared by Syngenta Crop Protection, Inc. 44 p.
46952102	Hipps, A. (2006) Physical and Chemical Properties of Prefix Herbicide (A14972F): (Final Report). Project Number: PC/06/123. Unpublished study prepared by Syngenta Crop Protection, Inc. 69 p.
47178302	Hipps, A. (2007) Flexstar (A12967D): Physical and Chemical Properties of Flexstar (A12967D). Project

Number: PC/07/043, REPORT/PC/07/043, T000827/07. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.

47409105 Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.

47477602 DeCarlo, J. (2008) Product Chemistry - Cheminova Fomesafen 2.0 Herbicide: Group B - Physical/Chemical Properties. Project Number: 24101, P802, 24103. Unpublished study prepared by Cheminova, Inc. 60 p.

47482502 Cheminova, Inc. (2008) Product Chemistry-Cheminova Fomesafen 1.88 Herbicide Group B-Physical and Chemical Properties. Project Number: 24112. Unpublished study prepared by Cheminova, Inc. 59 p.

47538602 Hipps, A. (2008) Flexter GT (A16918A)-Physical and Chemical Properties PC Volume. Project Number: PC/08/057, T1001675/08, 10364225/DOC. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.

48090902 Hipps, A. (2010) Fomesafen, Glyphosate: Flexstar GT3.5 (A17898A): Physical and Chemical Properties . Project Number: PC/10/022/OCR, TK0025118, 10417156. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.

48300506 Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.

48455602 Zitomer, J. (2011) Fomesafen Sodium Salt, 22.8% Contact Broadleaf Herbicide, Group B: Physical Properties Test Guidelines - Color, Physical State, Odor, Flammability (Flashpoint), pH, Viscosity, and Density: Final Report. Project Number: R11/2, PDS/2011/5. Unpublished study prepared by Product Development Services, LLC. 16 p.

48460002 Zitomer, J. (2011) Fomesafen Sodium Salt, 22.1%, Group B: Physical Properties Test Guidelines - Color, Physical State, Odor, Flammability (Flashpoint), pH, Viscosity, and Density: Final Report. Project Number: R11/4. Unpublished study prepared by Product Development Services, LLC. 14 p.

48464301 Moyer, J. (2011) FNF-015 End-Use Product Summary of OPPTS 830.1000 Series Product Properties Guidelines. Project Number: ALB11/05. Unpublished study prepared by Albaugh, Inc. 7 p.

48464303 Wo, C. (2011) Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, Flammability, pH, Viscosity, and Density/Relative Density: FNF-015. Project Number: 31532, P801. Unpublished study prepared by Eurofins/Product Safety Laboratories. 17 p.

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48626203 Tillman, A. (2011) Fomesafen 2 SL Waiver Request for Physical and Chemical Properties. Project Number: MANA/201102. Unpublished study prepared by Makhteshim-Agan of North America, Inc. 6p.

48642901 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Summary of Product Properties Test Guidelines. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 7p.

48854801 Miller, R. (2012) Physical and Chemical Characteristics of MANA 14204: Final Report. Project Number: MTO/60. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.

48890302 Miller, R. (2012) Physical and Chemical Characteristics of MANA 14201: Final Report. Project Number: ARC/EX/1155, ARC/EX/1155/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.

48890303 Venkatesh, K. (2012) MANA 14201 Waiver Request for Physical and Chemical Properties. Project Number: MANA/14201. Unpublished study prepared by Makhteshim Agan of North America, Inc. 6p.

48925902 8/21/12 (2012) Physical and Chemical Characteristics of MANA 25350: Final Report. Project Number: ARC/EX/1182 ARC/EX/1182/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.

49171702 Wo, C. (2013) NUP-12090: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, Flammability, pH, Viscosity, and Density/Relative Density. Project Number: 36199, P801/OCR. Unpublished study prepared by Product Safety Laboratories. 18p.

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49992703 Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.

50313302 Aders, M. (2017) Physical and Chemical Characteristics of Liberty Gly Fome: Final Report. Project Number: ARC/EX/2047/004/P/1, arc/ex/2047/001/p, arc/op/dcs/009/p. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 20p.

50524603 Moreno, D. (2017) Glyphosate IPA 31.75% + Fomesafen (Na Salt) 5.88% SL. Flash Point and Oxidizing Properties: Final Report. Project Number: E17172. Unpublished study prepared by Sharda Cropchem Limited. 15p.

830.6316      **Explosibility**

MRID	Citation Reference
46061002	Hipps, A. (2003) Physical and Chemical Properties of Fomesafen Sodium Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/082, T001130/03, HT03/105. Unpublished study prepared by Syngenta Crop Protection, Inc. 44 p.
46952102	Hipps, A. (2006) Physical and Chemical Properties of Prefix Herbicide (A14972F): (Final Report). Project Number: PC/06/123. Unpublished study prepared by Syngenta Crop Protection, Inc. 69 p.
47178302	Hipps, A. (2007) Flexstar (A12967D): Physical and Chemical Properties of Flexstar (A12967D). Project Number: PC/07/043, REPORT/PC/07/043, T000827/07. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
47538602	Hipps, A. (2008) Flexter GT (A16918A)-Physical and Chemical Properties PC Volume. Project Number: PC/08/057, T1001675/08, 10364225/DOC. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
48090902	Hipps, A. (2010) Fomesafen, Glyphosate: Flexstar GT3.5 (A17898A): Physical and Chemical Properties . Project Number: PC/10/022/OCR, TK0025118, 10417156. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explosibility, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.
48464301	Moyer, J. (2011) FNF-015 End-Use Product Summary of OPPTS 830.1000 Series Product Properties Guidelines. Project Number: ALB11/05. Unpublished study prepared by Albaugh, Inc. 7 p.



48626203 Tillman, A. (2011) Fomesafen 2 SL Waiver Request for Physical and Chemical Properties. Project Number: MANA/201102. Unpublished study prepared by Makhteshim-Agan of North America, Inc. 6p.

48642901 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Summary of Product Properties Test Guidelines. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 7p.

48890303 Venkatesh, K. (2012) MANA 14201 Waiver Request for Physical and Chemical Properties. Project Number: MANA/14201. Unpublished study prepared by Makhteshim Agan of North America, Inc. 6p.

48925903 Venkatesh, K. (2012) MANA 25350 Waiver Request for Physical and Chemical Properties. Project Number: MANA/25350. Unpublished study prepared by MANA. 6p.

49834701 Gregory, A. (2016) Glyphosate Am + Fomesafen Na: Summary of OPPTS 830.1000 Series Product Properties Test Guidelines. Project Number: ALB16/04S, ALB16/04, 41896/EAM. Unpublished study prepared by Albaugh, LLC. 7p.

49992703 Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.

50524605 Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

830.6317      **Storage stability**

MRID	Citation Reference
46061002	Hipps, A. (2003) Physical and Chemical Properties of Fomesafen Sodium Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/082, T001130/03, HT03/105. Unpublished study prepared by Syngenta Crop Protection, Inc. 44 p.
46376801	Hipps, A. (2004) One Year Storage Stability at Ambient Temperature and Corrosion Characteristics of Fomesafen Sodium Salt Aqueous Concentrate 48% (ASF389A). Project Number: PC/04/076, 1131/03/I2, 1131/03. Unpublished study prepared by Syngenta Crop Protection, INC. 18 p.
46952102	Hipps, A. (2006) Physical and Chemical Properties of Prefix Herbicide (A14972F): (Final Report). Project Number: PC/06/123. Unpublished study prepared by Syngenta Crop Protection, Inc. 69 p.
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
47409106	Wagner, J. (2008) Fomesafen Technical Herbicide: Stability to Normal and Elevated Temperatures, Metals, and Metal Ions: Storage Stability: Miscibility: Corrosion Characteristics: Dielectric Breakdown Voltage: Viscosity: Boiling Point: Particle Size, Fiber Length, and Diameter Distribution. Unpublished study prepared by Sharda Worldwide Exports Pvt. Ltd. 5 p.
47900501	Miller, R. (2009) Storage Stability and Corrosion Characteristics of Fomesafen 2 SL: Final Report. Project Number: CHB/EX/536, CHB/EX/536/013/P/1. Unpublished study prepared by PhibroWood, LLC. 24 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.



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48489302 Wo, C. (2010) LPI 6357-14: Enforcement Analytical Method for the Determination of Fomesafen Sodium Salt by High Pressure Liquid Chromatography. Project Number: 30345. Unpublished study prepared by Eurofins/Product Safety Laboratories. 10 p.

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48626203 Tillman, A. (2011) Fomesafen 2 SL Waiver Request for Physical and Chemical Properties. Project Number: MANA/201102. Unpublished study prepared by Makhteshim-Agan of North America, Inc. 6p.

48642901 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Summary of Product Properties Test Guidelines. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 7p.

48709501 Miller, R. (2011) Storage Stability and Corrosion Characteristics of Fomesafen 21SL: Final Report. Project Number: ARC/EX/871 ARC/EX/871/014/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 41p.

48821801 Zitomer, J. (2012) Fomesafen Sodium Salt, 22.8% Contact Broadleaf Herbicide, Group B: Physical Properties Test Guidelines - Preliminary Analysis, Chemical Stability and Container Corrosion: Final Report. Project Number: R11/1. Unpublished study prepared by Bartlo Packaging, Inc. 20p.

48821901 Zitomer, J. (2012) Fomesafen Sodium Salt, 22.1%, Group B: Physical Properties Test Guidelines - Preliminary Analysis, Chemical Stability and Container Corrosion: Final Report. Project Number: R11/3. Unpublished study prepared by Bartlo Packaging, Inc. 20p.

48890303 Venkatesh, K. (2012) MANA 14201 Waiver Request for Physical and Chemical Properties. Project Number: MANA/14201. Unpublished study prepared by Makhteshim Agan of North America, Inc. 6p.

48925903 Venkatesh, K. (2012) MANA 25350 Waiver Request for Physical and Chemical Properties. Project Number: MANA/25350. Unpublished study prepared by MANA. 6p.

49171703 Wo, C. (2013) NUP-12090: Accelerated Storage Stability and Corrosion Characteristics. Project Number: 36198, P802/OCR. Unpublished study prepared by Product Safety Laboratories. 28p.

49190101 Wo, C. (2013) FNF-015: Storage Stability and Corrosion Characteristics. Project Number: 31544, P800. Unpublished study prepared by Eurofins/Product Safety Laboratories. 25p.

49199001 Wo, C. (2013) Storage Stability and Corrosion Characteristics: Fomesafen + Imazethapyr SC. Project Number: 32619, P800. Unpublished study prepared by Eurofins/Product Safety Laboratories. 27p.

49213603 Foldi, Z. (2013) Physical and Chemical Characteristics of Drexel Foma-Soy 1.88 Herbicide: Stability to Normal and Elevated Temperature, Metals and Metal Ions, and Accelerated Storage Stability and Corrosion Characteristics. Project Number: DCC/0913/B. Unpublished study prepared by Drexel Chemical Company. 19p.

49267601 Miller, R. (2013) Accelerated Storage and Corrosion Characteristics of MANA 25350: Final Report. Project

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830.6319      Miscibility

MRID	Citation Reference
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830.6320 Corrosion characteristics

MRID	Citation Reference
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47409106	Wagner, J. (2008) Fomesafen Technical Herbicide: Stability to Normal and Elevated Temperatures, Metals, and Metal Ions: Storage Stability: Miscibility: Corrosion Characteristics: Dielectric Breakdown Voltage: Viscosity: Boiling Point: Particle Size, Fiber Length, and Diameter Distribution. Unpublished study prepared by Sharda Worldwide Exports Pvt. Ltd. 5 p.
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830.6321 Dielectric breakdown voltage

MRID	Citation Reference
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830.7000      pH

MRID	Citation Reference
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47178302	Hipps, A. (2007) Flexstar (A12967D): Physical and Chemical Properties of Flexstar (A12967D). Project Number: PC/07/043, REPORT/PC/07/043, T000827/07. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
47477602	DeCarlo, J. (2008) Product Chemistry - Cheminova Fomesafen 2.0 Herbicide: Group B - Physical/Chemical Properties. Project Number: 24101, P802, 24103. Unpublished study prepared by Cheminova, Inc. 60 p.
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47538602	Hipps, A. (2008) Flexter GT (A16918A)-Physical and Chemical Properties PC Volume. Project Number: PC/08/057, T1001675/08, 10364225/DOC. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
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- 48642901 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Summary of Product Properties Test Guidelines. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 7p.
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830.7050      UV/Visible absorption

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
48300505	Weller, P. (2010) Group B-Product Chemistry Analysis of Fomesafen Technical: Final Report. Project Number: 311081/1/001. Unpublished study prepared by Midwest Research Institute. 36 p.
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49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.
50524605	Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

830.7100      Viscosity

MRID	Citation Reference
46061002	Hipps, A. (2003) Physical and Chemical Properties of Fomesafen Sodium Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/082, T001130/03, HT03/105. Unpublished study prepared by Syngenta Crop Protection, Inc. 44 p.
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48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.
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**830.7200      Melting point/melting range**

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.
48308201	Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
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49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.
50524605	Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

**830.7220      Boiling point/boiling range**

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
47409106	Wagner, J. (2008) Fomesafen Technical Herbicide: Stability to Normal and Elevated Temperatures, Metals,



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49992703 Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.

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830.7300      Density/relative density

MRID	Citation Reference
46061002	Hipps, A. (2003) Physical and Chemical Properties of Fomesafen Sodium Salt Aqueous Concentrate 48% Manufacturing Use Product (ASF389A): (Final Report). Project Number: PC/03/082, T001130/03, HT03/105. Unpublished study prepared by Syngenta Crop Protection, Inc. 44 p.
46952102	Hipps, A. (2006) Physical and Chemical Properties of Prefix Herbicide (A14972F): (Final Report). Project Number: PC/06/123. Unpublished study prepared by Syngenta Crop Protection, Inc. 69 p.
47178302	Hipps, A. (2007) Flexstar (A12967D): Physical and Chemical Properties of Flexstar (A12967D). Project Number: PC/07/043, REPORT/PC/07/043, T000827/07. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
47477602	DeCarlo, J. (2008) Product Chemistry - Cheminova Fomesafen 2.0 Herbicide: Group B - Physical/Chemical Properties. Project Number: 24101, P802, 24103. Unpublished study prepared by Cheminova, Inc. 60 p.
47482502	Cheminova, Inc. (2008) Product Chemistry-Cheminova Fomesafen 1.88 Herbicide Group B-Physical and Chemical Properties. Project Number: 24112. Unpublished study prepared by Cheminova, Inc. 59 p.
47538602	Hipps, A. (2008) Flexter GT (A16918A)-Physical and Chemical Properties PC Volume. Project Number: PC/08/057, T1001675/08, 10364225/DOC. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.
47549301	Miller, R. (2008) Product Chemistry Volume IV-Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatibility, pH, Viscosity, and Density: Fomesafen 2 SL. Project Number: CHB/EX/534/004/P/1, CHB/EX/534. Unpublished study prepared by PhibroWood, LLC. 21 p.
48090902	Hipps, A. (2010) Fomesafen, Glyphosate: Flexstar GT3.5 (A17898A): Physical and Chemical Properties . Project Number: PC/10/022/OCR, TK0025118, 10417156. Unpublished study prepared by Syngenta Crop Protection, Inc. 34 p.



- 48136101 Johnson, L. (2010) Fomesafen 2 SL: Product Chemistry Series B: Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatibility, pH, Viscosity, and Density. Project Number: ARC/EX/762/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 13 p.
- 48300505 Weller, P. (2010) Group B-Product Chemistry Analysis of Fomesafen Technical: Final Report. Project Number: 311081/1/001. Unpublished study prepared by Midwest Research Institute. 36 p.
- 48308201 Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
- 48308204 Wen, H. (2009) Chemical and Physical Characterization of Fomesafen TGAI: Color, Physical State, Odor, Stability, Oxidation/Reduction, pH, UV-Vis, Melting Point, Density, Dissociation Constant, Partition Coefficient and Water Solubility: Final Report. Project Number: NC/2009/009. Unpublished study prepared by Nutrichem Laboratory Co., Ltd. 72 p.
- 48320803 Johnson, L. (2010) Fomesafen 2 SL Product Chemistry Series B Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatibility, pH, Viscosity, and Density. Project Number: ARC/EX/852/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 13 p.
- 48336503 Johnson, L. (2010) Fomesafen 21SL: Product Chemistry Series B: Product Properties: Color, Physical State, Odor, Oxidation/Reduction: Chemical Incompatibility, pH, Viscosity, and Density. Project Number: ARC/EX/870/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 13 p.
- 48455602 Zitomer, J. (2011) Fomesafen Sodium Salt, 22.8% Contact Broadleaf Herbicide, Group B: Physical Properties Test Guidelines - Color, Physical State, Odor, Flammability (Flashpoint), pH, Viscosity, and Density: Final Report. Project Number: R11/2, PDS/2011/5. Unpublished study prepared by Product Development Services, LLC. 16 p.
- 48460002 Zitomer, J. (2011) Fomesafen Sodium Salt, 22.1%, Group B: Physical Properties Test Guidelines - Color, Physical State, Odor, Flammability (Flashpoint), pH, Viscosity, and Density: Final Report. Project Number: R11/4. Unpublished study prepared by Product Development Services, LLC. 14 p.
- 48464301 Moyer, J. (2011) FNF-015 End-Use Product Summary of OPPTS 830.1000 Series Product Properties Guidelines. Project Number: ALB11/05. Unpublished study prepared by Albaugh, Inc. 7 p.
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- 48626202 Johnson, L. (2011) Physical and Chemical Characteristics of Fomesafen 240 SL: Final Report. Project Number: ARC/EX/1028 ARC/EX/1028/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 11p.
- 48642901 Gregory, A. (2011) Fomesafen + Imazethapyr SC: Summary of Product Properties Test Guidelines. Project Number: ALB11/19. Unpublished study prepared by Albaugh, Inc. 7p.
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- 48854801 Miller, R. (2012) Physical and Chemical Characteristics of MANA 14204: Final Report. Project Number: MTO/60. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.
- 48890302 Miller, R. (2012) Physical and Chemical Characteristics of MANA 14201: Final Report. Project Number: ARC/EX/1155, ARC/EX/1155/004/P/1. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 12p.

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49834703 Wo, C. (2015) Glyphosate Am + Fomesafen Na: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, pH, Viscosity, and Density/Relative Density. Project Number: 41897, P801, 41896. Unpublished study prepared by Product Safety Laboratories. 17p.

49992702 Theus, S. (2016) Physical and Chemical Characteristics of Fomesafen 1.88 SL: Final Report. Project Number: ARC/EX/1857, ARC/EX/1857/004/P/1, ARC/EX/1857/001/P. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 20p.

50313302 Aders, M. (2017) Physical and Chemical Characteristics of Liberty Gly Fome: Final Report. Project Number: ARC/EX/2047/004/P/1, arc/ex/2047/001/p, arc/op/dcs/009/p. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 20p.

50524604 Moreno, D. (2018) Validation of the Analytical Method for Glyphosate IPA 31.75% + Fomesafen (Na Salt) 5.88% SL. Determination of the Density and COA: Final Report. Project Number: E17163. Unpublished study prepared by Cambium, S.L. 69p.

830.7370      **Dissociation constants in water**

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.
48308201	Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
48308204	Wen, H. (2009) Chemical and Physical Characterization of Fomesafen TGAI: Color, Physical State, Odor, Stability, Oxidation/Reduction, pH, UV-Vis, Melting Point, Density, Dissociation Constant, Partition Coefficient and Water Solubility: Final Report. Project Number: NC/2009/009. Unpublished study prepared by Nutrichem Laboratory Co., Ltd. 72 p.
49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.

50524605 Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

830.7520      **Particle size, fiber length, and diameter distribution**

MRID	Citation Reference
47409106	Wagner, J. (2008) Fomesafen Technical Herbicide: Stability to Normal and Elevated Temperatures, Metals, and Metal Ions: Storage Stability: Miscibility: Corrosion Characteristics: Dielectric Breakdown Voltage: Viscosity: Boiling Point: Particle Size, Fiber Length, and Diameter Distribution. Unpublished study prepared by Sharda Worldwide Exports Pvt. Ltd. 5 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.
48626203	Tillman, A. (2011) Fomesafen 2 SL Waiver Request for Physical and Chemical Properties. Project Number: MANA/201102. Unpublished study prepared by Makhteshim-Agan of North America, Inc. 6p.
48890303	Venkatesh, K. (2012) MANA 14201 Waiver Request for Physical and Chemical Properties. Project Number: MANA/14201. Unpublished study prepared by Makhteshim Agan of North America, Inc. 6p.
48925903	Venkatesh, K. (2012) MANA 25350 Waiver Request for Physical and Chemical Properties. Project Number: MANA/25350. Unpublished study prepared by MANA. 6p.
49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.
50313302	Aders, M. (2017) Physical and Chemical Characteristics of Liberty Gly Fome: Final Report. Project Number: ARC/EX/2047/004/P/1, arc/ex/2047/001/p, arc/op/dcs/009/p. Unpublished study prepared by Analytical & Regulatory Chemistry, Inc. 20p.
50524605	Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

830.7550      **Partition coefficient (n-octanol/water), shake flask method**

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.

48308201 Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.

49992703 Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.

50524605 Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

**830.7560      Partition coefficient (n-octanol/water), generator column method**

MRID	Citation Reference
48308201	Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.
50524605	Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

**830.7570      Partition coefficient (n-octanol/water), estimation by liquid chromatography**

MRID	Citation Reference
48308201	Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
48308204	Wen, H. (2009) Chemical and Physical Characterization of Fomesafen TGAI: Color, Physical State, Odor, Stability, Oxidation/Reduction, pH, UV-Vis, Melting Point, Density, Dissociation Constant, Partition Coefficient and Water Solubility: Final Report. Project Number: NC/2009/009. Unpublished study prepared by Nutrichem Laboratory Co., Ltd. 72 p.
49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.
50524605	Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

**830.7840      Water solubility: Column elution method, shake flask method**

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.

48300506 Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.

48308201 Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.

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49992703 Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.

50524605 Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

**830.7860      Water solubility, generator column method**

MRID	Citation Reference
48308201	Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.
49992703	Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.
50524605	Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

**830.7950      Vapor pressure**

MRID	Citation Reference
47409105	Norris, D. (2008) Determination of Physical Parameters, Storage Stability and Shelf Life Specification Data for Fomesafen Technical Material Stored at 54 Degrees Celsius for 14 Days with Associated Validation, in Compliance with Good Laboratory Practice. Project Number: DNA0382. Unpublished study prepared by David Norris Analytical Laboratories Ltd. 114 p.
48300506	Byrd, C. (2010) Willowood Fomesafen Technical: Product Chemistry Data Waivers: Stability to Metals and Metal Ions, Flammability, Explodability, Storage Stability, Miscibility, Corrosion Characteristics, Dielectric Breakdown Voltage, Viscosity, Melting Point, Boiling Point, Dissociation Constant in Water, Particle Size, Fiber Length, and Diameter Distribution, Partition Coefficient (N-Octanol/Water), Water Solubility, Vapor Pressure. Unpublished study prepared by Willowood Fomesafen, LLC. 5 p.



48308201 Moyer, J. (2010) Fomesafen TGAI: Summary of Product Properties Test Guidelines. Project Number: ALB10/14. Unpublished study prepared by Albaugh, Inc. 7 p.

49992703 Kellogg, M. (2016) Waiver Request for Certain Data Requirements for Tacoma Ag Fomesafen 1.88. Unpublished study prepared by Tacoma Ag, LLC. 7p.

50524605 Armstrong, A. (2018) Sharda Glyphoste IPA 31.75% + Fomesafen 5.88 SL: Product Chemistry - Group B: Request for Waiver for Certain Physical/Chemical Properties Data. Unpublished study prepared by Sharda USA, LLC. 5p.

**850.2300      Avian reproduction test**

MRID	Citation Reference
47916401	Stafford, J. (2009) Fomesafen: Reproductive Toxicity Test with Northern Bobwhite ( <i>Colinus virginianus</i> ): Final Report. Project Number: 1781/4107, T008869/08. Unpublished study prepared by Springborn Smithers Laboratories. 254 p.
47972001	Stafford, J. (2010) Fomesafen: Reproductive Toxicity Test with Northern Bobwhite ( <i>Colinus virginianus</i> ): Final Report Amendment. Project Number: 1781/4107, T008869/08. Unpublished study prepared by Springborn Smithers Laboratories. 269 p.
48208801	Stafford, J. (2010) Fomesafen: Reproductive Toxicity Test with Northern Bobwhite ( <i>Colinus virginianus</i> ) (MRID 4796401 and MRID 47972001): Amended Final Report 2. Project Number: 1781/4107, T008869/08. Unpublished study prepared by Springborn Smithers Laboratories. 271 p.

**850.4000      Background--Nontarget plant testing**

MRID	Citation Reference
48411301	Brain, R.; Overmyer, J. (2011) Fomesafen: Supporting Data and Information for EPA's Endangered Species Assessments - Sensitivity of Wood Species. Project Number: TK0054555. Unpublished study prepared by Syngenta Crop Protection, LLC. 1977 p.

**850.4100      Terrestrial plant toxicity, Tier 1 (seeding emergence)**

MRID	Citation Reference
46673801	Porch, J.; Martin, K.; Krueger, H. (2001) Fomesafen: A Glasshouse Study on the Effects of Formulated Product on Seedling Emergence of Terrestrial Non-Target Plants: Final Report. Project Number: 123/195. Unpublished study prepared by Wildlife International, Ltd. 146 p.

**850.4150      Terrestrial plant toxicity, Tier 1 (vegetative vigor)**

MRID	Citation Reference
46673802	Porch, J.; Martin, K.; Krueger, H. (2001) Fomesafen: A Glasshouse Study on the Effects of Formulated Product on Vegetative Vigour of Terrestrial Non-Target Plants: Final Report. Project Number: 123/196.



Unpublished study prepared by Wildlife International, Ltd. 167 p.

**850.4225      Seedling emergence, Tier II**

MRID	Citation Reference
46673801	Porch, J.; Martin, K.; Krueger, H. (2001) Fomesafen: A Glasshouse Study on the Effects of Formulated Product on Seedling Emergence of Terrestrial Non-Target Plants: Final Report. Project Number: 123/195. Unpublished study prepared by Wildlife International, Ltd. 146 p.

**850.4250      Vegetative vigor, Tier II**

MRID	Citation Reference
46673802	Porch, J.; Martin, K.; Krueger, H. (2001) Fomesafen: A Glasshouse Study on the Effects of Formulated Product on Vegetative Vigour of Terrestrial Non-Target Plants: Final Report. Project Number: 123/196. Unpublished study prepared by Wildlife International, Ltd. 167 p.

**850.4400      Aquatic plant toxicity test using Lemna spp. Tiers I and II**

MRID	Citation Reference
46673803	Kent, S.; Smyth, D.; Shillabeer, N. (1997) Fomesafen: Toxicity to Duckweed (Lemna gibba): Final Report. Project Number: BL5953/B, AD0133/C. Unpublished study prepared by Astrazeneca Uk Ltd. 24 p.

**850.5400      Algal toxicity, Tiers 1 and II**

MRID	Citation Reference
46673804	Kent, S.; Smyth, D.; Shillabeer, N. (1997) Fomesafen: Toxicity to the Green Alga (Selenastrum capricornutum): Final Report. Project Number: BL5952/B, AD0133/B. Unpublished study prepared by Astrazeneca Uk Ltd. 23 p.
46673805	Daniel, M. (2002) ASF 785 Tech (Fomesafen Technical): Toxicity to the Freshwater Diatom Navicula pelliculosa: Final Report. Project Number: BL7439/B, 02/0325/B. Unpublished study prepared by Astrazeneca Uk Ltd. 23 p.
46673806	Daniel, M. (2002) ASF 785 Tech (Fomesafen Technical): Toxicity to the Marine Alga Skeletonema costatum: Final Report. Project Number: BL7440/B, 02/0325/C. Unpublished study prepared by Astrazeneca Uk Ltd. 23 p.
46673807	Daniel, M. (2002) ASF 785 Tech (Fomesafen Technical): Toxicity to the Blue Green Alga Anabaena flos-aquae: Final Report. Project Number: BL7441/B, 02/0325/D. Unpublished study prepared by Astrazeneca Uk Ltd. 24 p.

**860.1000      Background**

MRID	Citation Reference
47941401	Mayer, T. (2009) Fomesafen - Magnitude of the Residues in or on Peanut: Final Report. Project Number: T007454/07, 2K9/901/T007454/07. Unpublished study prepared by Syngenta Crop Protection, Inc., and ADPEN Laboratories, Inc. 193 p.

**860.1300      Nature of the residue - plants, livestock**

MRID	Citation Reference
47473901	Quistad, G.; Kovatchev, A. (2008) (Carbon 14) - Nature of the Residue in Tomatoes: Final Report. Project Number: 1650W, T003363/06. Unpublished study prepared by PTRL West, Inc., Excel Research Services, Inc., and Syngenta Crop Protection, Inc. 199 p.
47761905	Hayworth, C. (2009) Fomesafen: Conditional Registration Requirement for Amendment Adding Uses on Cotton, Snap Beans and Dry Beans and a Soybean 45 Day Pre-Harvest Interval: Response. Project Number: T009408/05, PP21/1000029, FOME/97/MR/01. Unpublished study prepared by Syngenta Crop Protection. 130 p.

**860.1340      Residue analytical method**

MRID	Citation Reference
47761901	Perez, R.; Tarkalanov, N.; Perez, S. (2008) Fomesafen: MRMT PAM Test on Soybean Seed and Forage: Final Report. Project Number: ADPEN/901/2K7/4057/0, T004057/06, PP21/1000027. Unpublished study prepared by ADPEN Laboratories, Inc. 71 p.
47761903	Lin, K. (2009) Fomesafen: Analytical Method for the Determination of Residues of Fomesafen in Crop Commodities by LC-MS/MS: Analytical Method. Project Number: GRM045/01A, T008547/08, PP21/1000025. Unpublished study prepared by Syngenta Crop Protection, Inc. 38 p.
47761904	Lin, K. (2009) Fomesafen: Validation of Analytical Method GRM045.01A for the Determination of Residues of Fomesafen in Crop Commodities by LC/MS/MS: Final Report. Project Number: T008547/08, PP21/1000021. Unpublished study prepared by Syngenta Crop Protection, Inc. 104 p.
47761905	Hayworth, C. (2009) Fomesafen: Conditional Registration Requirement for Amendment Adding Uses on Cotton, Snap Beans and Dry Beans and a Soybean 45 Day Pre-Harvest Interval: Response. Project Number: T009408/05, PP21/1000029, FOME/97/MR/01. Unpublished study prepared by Syngenta Crop Protection. 130 p.

**860.1360      Multiresidue method**

MRID	Citation Reference
47761901	Perez, R.; Tarkalanov, N.; Perez, S. (2008) Fomesafen: MRMT PAM Test on Soybean Seed and Forage: Final Report. Project Number: ADPEN/901/2K7/4057/0, T004057/06, PP21/1000027. Unpublished study prepared by ADPEN Laboratories, Inc. 71 p.
47761905	Hayworth, C. (2009) Fomesafen: Conditional Registration Requirement for Amendment Adding Uses on

Cotton, Snap Beans and Dry Beans and a Soybean 45 Day Pre-Harvest Interval: Response. Project Number: T009408/05, PP21/1000029, FOME/97/MR/01. Unpublished study prepared by Syngenta Crop Protection. 130 p.

860.1380      Storage stability data

MRID	Citation Reference
47761902	Perez, R.; Perez, S.; Mayer, T. (2009) Fomesafen: Stability of Fomesafen Residues in Commodities of Corn, Soybean, Cotton and Wheat Under Freezer Storage Conditions: Interim Report. Project Number: 2K9/901/T005081/07/01, ADPEN/2K7/901/T005081/07, T005081/07. Unpublished study prepared by ADPEN Laboratories, Inc. 121 p.
47761905	Hayworth, C. (2009) Fomesafen: Conditional Registration Requirement for Amendment Adding Uses on Cotton, Snap Beans and Dry Beans and a Soybean 45 Day Pre-Harvest Interval: Response. Project Number: T009408/05, PP21/1000029, FOME/97/MR/01. Unpublished study prepared by Syngenta Crop Protection. 130 p.

860.1500      Crop field trials

MRID	Citation Reference
47473902	Leonard, R. (2008) Fomesafen - Magnitude of the Residue on Tomato: Final Report. Project Number: IR/4/PROJECT/PR/0894, T001754/09, 08948/06/NY/10. Unpublished study prepared by Interregional Research Project No. 4, Cornell University and University of Florida. 241 p.
47473903	Leonard, R. (2008) Fomesafen - Magnitude of the Residue on Potato: Final Report. Project Number: T001753/09, IR/4/PROJECT/PR/0808, 08084/06/NY09. Unpublished study prepared by Interregional Research Project No. 4, Cornell University and University of Florida. 269 p.
47761905	Hayworth, C. (2009) Fomesafen: Conditional Registration Requirement for Amendment Adding Uses on Cotton, Snap Beans and Dry Beans and a Soybean 45 Day Pre-Harvest Interval: Response. Project Number: T009408/05, PP21/1000029, FOME/97/MR/01. Unpublished study prepared by Syngenta Crop Protection. 130 p.
47941401	Mayer, T. (2009) Fomesafen - Magnitude of the Residues in or on Peanut: Final Report. Project Number: T007454/07, 2K9/901/T007454/07. Unpublished study prepared by Syngenta Crop Protection, Inc., and ADPEN Laboratories, Inc. 193 p.
47941402	Arsenovic, M. (2009) Fomesafen - Magnitude of the Residue on Pepper (Bell & Non-Bell): Final Report. Project Number: 09677, TK0024179. Unpublished study prepared by Interregional Research Project No. 4, University of California Kearney Agricultural Center and University of Florida. 225 p.
49351201	Willard, T. (2012) Fomesafen: Reducing the Plantback Interval for Peanut Rotational Crop to Four Months after Fomesafen Application: Rationale. Project Number: TK0165329. Unpublished study prepared by Syngenta Crop Protection, LLC. 13p.

860.1520      Processed food/feed

MRID	Citation Reference
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47941401 Mayer, T. (2009) Fomesafen - Magnitude of the Residues in or on Peanut: Final Report. Project Number: T007454/07, 2K9/901/T007454/07. Unpublished study prepared by Syngenta Crop Protection, Inc., and ADPEN Laboratories, Inc. 193 p.

860.1850      **Confined accumulation in rotational crops**

MRID	Citation Reference
47761905	Hayworth, C. (2009) Fomesafen: Conditional Registration Requirement for Amendment Adding Uses on Cotton, Snap Beans and Dry Beans and a Soybean 45 Day Pre-Harvest Interval: Response. Project Number: T009408/05, PP21/1000029, FOME/97/MR/01. Unpublished study prepared by Syngenta Crop Protection. 130 p.
47937602	Quistad, G.; Kovatchev, A.; LaMar, J. (2010) (Carbon 14)-Fomesafen - Uptake and Metabolism in Confined Rotational Crops: Final Report. Project Number: 1649W, T004056/06. Unpublished study prepared by PTRL West, Inc. and Syngenta Crop Protection, Inc. 597 p.

860.1900      **Field accumulation in rotational crops**

MRID	Citation Reference
47761905	Hayworth, C. (2009) Fomesafen: Conditional Registration Requirement for Amendment Adding Uses on Cotton, Snap Beans and Dry Beans and a Soybean 45 Day Pre-Harvest Interval: Response. Project Number: T009408/05, PP21/1000029, FOME/97/MR/01. Unpublished study prepared by Syngenta Crop Protection. 130 p.
48239501	Kleinschmidt, M.; Iwata, Y. (2001) Fomesafen- Residue Levels in the Rotational Crop, Wheat, from Trials Conducted in the United States during 1999-2000: Final Report. Project Number: RR/00/102B, TK0051327. Unpublished study prepared by Zeneca Ag Products, Inc. 93 p.
49351201	Willard, T. (2012) Fomesafen: Reducing the Plantback Interval for Peanut Rotational Crop to Four Months after Fomesafen Application: Rationale. Project Number: TK0165329. Unpublished study prepared by Syngenta Crop Protection, LLC. 13p.

870.1100      **Acute oral toxicity**

MRID	Citation Reference
46952103	Kuhn, J. (2006) Acute Oral Toxicity Study in Rats: Fomesafen/S-Metolachlor EC: Final Report. Project Number: 9955/06, T002470/06. Unpublished study prepared by Stillmeadow, Inc. 16 p.
46988901	Kuhn, J. (2004) Acute Oral Toxicity Study in Rats with Fomesafen Technical (FL-031976): Final Report. Project Number: 8196/04, T007370/03. Unpublished study prepared by Stillmeadow, Inc. 11 p.
47477603	Durando, J. (2008) Fomesafen 21.0% Inc.-114: Acute Oral Toxicity Up and Down Procedure in Rats. Project Number: 24104, P320/UDP. Unpublished study prepared by Product Safety Laboratories. 30 p.
47482503	Lowe, C. (2008) Acute Oral Toxicity Up and Down Procedure in Rats: Fomesafen 21.7% Inc.-113. Project Number: P320/UDP, 24113, 080115/7H. Unpublished study prepared by Product Safety Laboratories. 28 p.
47538603	Kuhn, J. (2008) Fomesafen/Glyphosate SL (A16918A)-Acute Oral Toxicity Study in Rats: Final Report.

Project Number: 11997/08, TOO4452/07. Unpublished study prepared by Stillmeadow, Inc. 13 p.

48090903 Kuhn, J. (2010) PP21 as SYN531762/Glyphosate SL (A17898A): Acute Oral Toxicity Study in Rats: Final Report. Project Number: TK0021308/OCR, 13661/10/OCR. Unpublished study prepared by Stillmeadow, Inc. 12 p.

48485501 Durando, J. (2006) Fomesafen Technical (147A): Acute Oral Toxicity Up and Down Procedure in Rats: Final Report. Project Number: 19305, T001483/06. Unpublished study prepared by Product Safety Laboratories. 18 p.

48485502 Durando, J. (2006) Fomesafen (Sodium) Technical (SYN53172): Acute Oral Toxicity Up and Down Procedure in Rats: Final Report. Project Number: 19309, T001487/06. Unpublished study prepared by Product Safety Laboratories. 16 p.

48485503 Durando, J. (2006) Fomesafen (Sodium) Technical (SYN531762): Acute Oral Toxicity Up and Down Procedure in Rats: Final Report. Project Number: 19309, T001487/06. Unpublished study prepared by Product Safety Laboratories. 17 p.

48489304 Durando, J. (2010) LPI 6357-14: Acute Oral Toxicity Up and Down Procedure in Rats. Project Number: 30347, P320/UDP. Unpublished study prepared by Eurofins/Product Safety Laboratories. 17 p.

48642904 Lowe, C. (2011) Fomesafen + Imazethapyr SC: Acute Oral Toxicity Up and Down Procedure in Rats. Project Number: 32621 P320/UDP. Unpublished study prepared by Eurofins/Product Safety Laboratories. 17p.

48854803 Durando, J. (2012) MANA 14204: Acute Oral Toxicity Up and Down Procedure in Rats. Project Number: 34290, P320/UDP. Unpublished study prepared by Product Safety Laboratories. 15p.

49171704 Durando, J. (2013) NUP-12090: Acute Oral Toxicity Up and Down Procedure in Rats. Project Number: 36200, P320/UDP/OCR. Unpublished study prepared by Product Safety Laboratories. 18p.

49644301 Cowen, N.; Messina, J. (2015) Acute Oral Toxicity, Acute Dermal Toxicity, Acute Inhalation Toxicity, Acute Eye Irritation, Acute Dermal Irritation, and Dermal Sensitization for the End-Use Product BRAKE(R) F16 Herbicide. Project Number: SEPRO/15/06. Unpublished study prepared by Exponent, Inc. 16p.

49834705 Durando, J. (2016) Glyphosate Am + Fomesafen Na: Acute Oral Toxicity - Up-And-Down Procedure in Rats. Project Number: 41898, P320/UDP, 41896. Unpublished study prepared by Product Safety Laboratories. 15p.

870.1200 Acute dermal toxicity

MRID	Citation Reference
46952104	Kuhn, J. (2006) Acute Dermal Toxicity Study in Rats: Fomesafen/S-Metolachlor EC: Final Report. Project Number: 9956/06, T002471/06. Unpublished study prepared by Stillmeadow, Inc. 13 p.
46988902	Kuhn, J. (2004) Acute Dermal Toxicity Study in Rats with Fomesafen Technical (FL-031976): Final Report. Project Number: 8197/04, T007371/03. Unpublished study prepared by Stillmeadow, Inc. 11 p.
47477604	Durando, J. (2008) Fomesafen 21.0% Inc.-114: Acute Dermal Toxicity Study in Rats-Limit Test. Project Number: 24105, P322/RAT. Unpublished study prepared by Product Safety Laboratories. 26 p.
47482504	Lowe, C. (2008) Acute Dermal Toxicity Study in Rats-Limit Test: Fomesafen 21.7% Inc.-113. Project Number: P322/RAT, 24114, 080115/7H. Unpublished study prepared by Product Safety Laboratories. 26 p.
47538604	Kuhn, J. Fomesafen/Glyphosate SL (A16918A)-Acute Dermal Toxicity Study in Rats: Final Report. Project Number: 11998/08, TOO4453/07. Unpublished study prepared by Stillmeadow, Inc. 12 p.
48090904	Kuhn, J. (2010) PP21 as SYN531762/Glyphosate SL (A17898A): Acute Dermal Toxicity Study in Rats: Final Report. Project Number: TK0021309/OCR, 13662/10/OCR. Unpublished study prepared by



Stillmeadow, Inc. 13 p.

48485504 Durando, J. (2006) Fomesafen Technical (147A): Acute Dermal Toxicity Study in Rats: Final Report. Project Number: 19306, T001484/06. Unpublished study prepared by Product Safety Laboratories. 16 p.

48485505 Durando, J. (2006) Fomesafen (Sodium) Technical (SYN53172): Acute Dermal Toxicity Study in Rats: Final Report. Project Number: 19310, T001488/06. Unpublished study prepared by Product Safety Laboratories. 16 p.

48485506 Durando, J. (2006) Fomesafen (Sodium) Technical (SYN531762): Acute Dermal Toxicity Study in Rats: Final Report. Project Number: 19310, T001488/06. Unpublished study prepared by Product Safety Laboratories. 17 p.

48489305 Durando, J. (2010) LPI 6357-14: Acute Dermal Toxicity Study in Rats. Project Number: P322/RAT, 30348. Unpublished study prepared by Eurofins/Product Safety Laboratories. 15 p.

48642905 Lowe, C. (2011) Fomesafen + Imazethapyr SC: Acute Dermal Toxicity Study in Rats. Project Number: 32622 P322/RAT. Unpublished study prepared by Eurofins/Product Safety Laboratories. 15p.

48854804 Durando, J. (2012) MANA 14204: Acute Dermal Toxicity Study in Rats. Project Number: P322/RAT, 34291. Unpublished study prepared by Product Safety Laboratories. 15p.

49171705 Durando, J. (2013) NUP-12090: Acute Dermal Toxicity Study In Rats. Project Number: 36201, P322/RAT/OCR. Unpublished study prepared by Product Safety Laboratories. 25p.

49644301 Cowen, N.; Messina, J. (2015) Acute Oral Toxicity, Acute Dermal Toxicity, Acute Inhalation Toxicity, Acute Eye Irritation, Acute Dermal Irritation, and Dermal Sensitization for the End-Use Product BRAKE(R) F16 Herbicide. Project Number: SEPRO/15/06. Unpublished study prepared by Exponent, Inc. 16p.

49834706 Durando, J. (2016) Glyphosate Am + Fomesafen Na: Acute Dermal Toxicity in Rats. Project Number: 41899, P322/RAT, 41896. Unpublished study prepared by Product Safety Laboratories. 15p.

870.1300 Acute inhalation toxicity

MRID	Citation Reference
46952105	Carter, L. (2006) Acute Inhalation Toxicity Study in Rats: Fomesafen/S-Metolachlor EC: Final Report. Project Number: 9957/06, T002472/06. Unpublished study prepared by Stillmeadow, Inc. 24 p.
46988903	Carter, L. (2004) Acute Inhalation Toxicity Study in Rats with Fomesafen Technical (FL-031976): Final Report. Project Number: 8205/04, T007375/03. Unpublished study prepared by Stillmeadow, Inc. 19 p.
47477605	Durando, J. (2008) Fomesafen 21.0% Inc.-114: Acute Inhalation Toxicity Study in Rats - Limit Test. Project Number: 24106, P330. Unpublished study prepared by Product Safety Laboratories. 35 p.
47482505	Lowe, C. (2008) Acute Inhalation Toxicity Study in Rats-Limit Test: Fomesafen 21.7% Inc.-113. Project Number: P330, 24115, 080115/7H. Unpublished study prepared by Product Safety Laboratories. 35 p.
47538605	Carter, L. (2008) Fomesafen/Glyphosate SL (A16918A)-Acute Inhalation Toxicity Study in Rats: Final Report. Project Number: 11999/08, TOO4457/07, 10356371/DOC. Unpublished study prepared by Stillmeadow, Inc. 21 p.
48090905	Doig, A. (2010) PP21 as SYN531762/Glyphosate SL (A17898A): Acute Inhalation Toxicity Study in Rats: Final Report. Project Number: TK0021310/OCR, 13663/10/OCR. Unpublished study prepared by Stillmeadow, Inc. 21 p.
48485507	Noakes, J. (2006) Fomesafen Technical (147A): 4-Hour Acute Inhalation Limit Toxicity Study in the Rat: Final Report. Project Number: HR2553/REG/R1, T001674/06. Unpublished study prepared by Central

Toxicology Lab. (Syngenta). 51 p.

48485508 Noakes, J. (2006) Fomesafen (Sodium) Technical (SYN531762): 4 Hour Acute Inhalation Limit Toxicity Study in the Rat: Final Report. Project Number: HR2554/REG/R1, T001675/06. Unpublished study prepared by Central Toxicology Lab. (Syngenta). 51 p.

48489306 Durando, J. (2010) LPI 6357-14: Acute Inhalation Toxicity Study in Rats. Project Number: 30349, P330. Unpublished study prepared by Eurofins/Product Safety Laboratories. 23 p.

48642906 Lowe, C. (2011) Fomesafen + Imazethapyr SC: Acute Inhalation Toxicity Study in Rats. Project Number: 32623 P330. Unpublished study prepared by Eurofins/Product Safety Laboratories. 40p.

48854805 Durando, J. (2012) MANA 14204: Acute Inhalation Toxicity Study in Rats. Project Number: P330, 34292. Unpublished study prepared by Product Safety Laboratories. 23p.

49171706 Durando, J. (2013) NUP-12090: Acute Inhalation Toxicity Study In Rats - Limit Test. Project Number: 36202, P330/OCR. Unpublished study prepared by Product Safety Laboratories. 24p.

49644301 Cowen, N.; Messina, J. (2015) Acute Oral Toxicity, Acute Dermal Toxicity, Acute Inhalation Toxicity, Acute Eye Irritation, Acute Dermal Irritation, and Dermal Sensitization for the End-Use Product BRAKE(R) F16 Herbicide. Project Number: SEPRO/15/06. Unpublished study prepared by Exponent, Inc. 16p.

49834707 Durando, J. (2016) Glyphosate Am + Fomesafen Na: Acute Inhalation Toxicity in Rats. Project Number: 41900, P330, 41896. Unpublished study prepared by Product Safety Laboratories. 26p.

**870.2400      Acute eye irritation**

MRID	Citation Reference
46952106	Kuhn, J. (2006) Acute Eye Irritation Study in Rabbits: Fomesafen/S-Metolachlor EC: Final Report. Project Number: 9730/06, T000974/06. Unpublished study prepared by Stillmeadow, Inc. 18 p.
46988904	Kuhn, J. (2004) Acute Eye Irritation Study in Rabbits with Fomesafen Technical (FL-031976): Final Report. Project Number: 8198/04, T007373/03. Unpublished study prepared by Stillmeadow, Inc. 15 p.
47477606	Durando, J. (2008) Fomesafen 21.0% Inc.-114: Primary Eye Irritation Study in Rabbits. Project Number: 24107, P324. Unpublished study prepared by Product Safety Laboratories. 33 p.
47482506	Lowe, C. (2008) Primary Eye Irritation Study in Rats: Fomesafen 21.7% Inc.-113. Project Number: P324, 24116, 080115/7H. Unpublished study prepared by Product Safety Laboratories. 31 p.
47538606	Kuhn, J. (2008) Fomesafen/Glyphosate SL 9A16918A-Acute Eye Irritation Study in Rabbits: Final Report. Project Number: 12000/08, TOO4455/07. Unpublished study prepared by Stillmeadow, Inc. 17 p.
48090906	Kuhn, J. (2010) PP21 as SYN531762/Glyphosate SL (A17898A): Acute Eye Irritation Study in Rabbits: Final Report. Project Number: TK0013613/OCR, 13664/10/OCR. Unpublished study prepared by Stillmeadow, Inc. 17 p.
48464304	Durando, J. (2011) Primary Eye Irritation Study in Rabbits: FNF-015. Project Number: 31533, P324. Unpublished study prepared by Eurofins/Product Safety Laboratories. 18 p.
48485509	Durando, J. (2006) Fomesafen Technical (147A): Primary Eye Irritation Study in Rabbits: Final Report. Project Number: 19307, T001485/06. Unpublished study prepared by Product Safety Laboratories. 19 p.
48485510	Durando, J. (2006) Fomesafen (Sodium) Technical (SYN53172): Primary Eye Irritation Study in Rabbits: Final Report. Project Number: 19311, T001489/06. Unpublished study prepared by Product Safety Laboratories. 20 p.
48485511	Durando, J. (2006) Fomesafen (Sodium) Technical (SYN531762): Primary Eye Irritation Study in Rabbits:

Final Report. Project Number: 19311, T001489/06. Unpublished study prepared by Product Safety Laboratories. 21 p.

48489307 Durando, J. (2010) LPI 6357-14: Primary Eye Irritation Study in Rabbits. Project Number: 30350, P324. Unpublished study prepared by Eurofins/Product Safety Laboratories. 18 p.

48642907 Lowe, C. (2011) Fomesafen + Imazethapyr SC: Primary Eye Irritation Study in Rabbits. Project Number: 32624 P324. Unpublished study prepared by Eurofins/Product Safety Laboratories. 18p.

48854806 Durando, J. (2012) MANA 14204: Primary Eye Irritation Study in Rabbits. Project Number: P324, 34293. Unpublished study prepared by Product Safety Laboratories. 17p.

49171707 Durando, J. (2013) NUP-12090: Primary Eye Irritation Study in Rabbits. Project Number: 36203/OCR, P324. Unpublished study prepared by Product Safety Laboratories. 19p.

49644301 Cowen, N.; Messina, J. (2015) Acute Oral Toxicity, Acute Dermal Toxicity, Acute Inhalation Toxicity, Acute Eye Irritation, Acute Dermal Irritation, and Dermal Sensitization for the End-Use Product BRAKE(R) F16 Herbicide. Project Number: SEPRO/15/06. Unpublished study prepared by Exponent, Inc. 16p.

49834708 Durando, J. (2016) Glyphosate Am + Fomesafen Na: Primary Eye Irritation in Rabbits. Project Number: 41901, P324, 41896. Unpublished study prepared by Product Safety Laboratories. 20p.

870.2500 Acute dermal irritation

MRID	Citation Reference
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870.2600 Skin sensitization

MRID	Citation Reference
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**870.3700      Prenatal developmental toxicity study**

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MRID	Citation Reference
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MRID	Citation Reference
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